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"I love to find the heroic in my subjects; I like my photos larger than life and richly detailed."

Kate Turning



ImageMaker KATE TURNING

Assignments and fine art projects have taken Kate as far as Tahiti, Japan, Hong Kong, India, Europe and Saudi Arabia. She has created unique and lyrical imagery for clients from pop stars to major ad campaigns. She orchestrates her photographs like frothy Rossini bonbons, bursting with detailed embellishment and an ever-present sense of fun and imagination.

Her deep love of painting in all its forms from the Old Masters to Pop Surrealism, can be seen in her bold use of color and innovative lighting.

The image: PENTAX 645Z camera and the HD PENTAX D FA 645 MACRO 90mm Lens F2.8 ED AW SR.
Camera Setting f8 at 1/125 Sec., ISO 100

The concept: "I wanted to capture every detail of this performer's playful personality, not merely her beauty."

Contact Kate for her thoughts:
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or to see more of her work go to:
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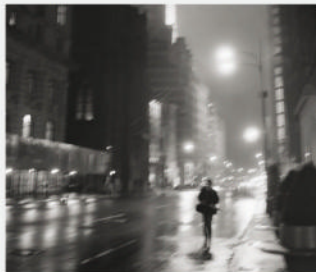
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By Peter Kolonia



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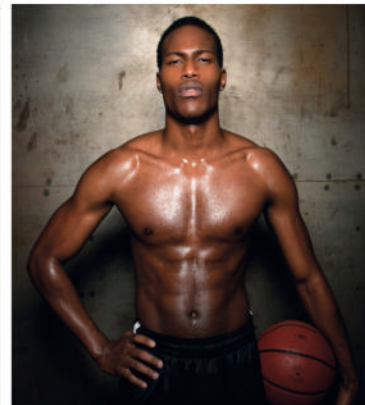
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LIGHT SHAPING BY JOE McNALLY

Internationally acclaimed photographer Joe McNally knows more about lighting and TTL than most. Watch his three new how to videos and absorb some of that knowledge.

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EDITOR'S LETTER

PETER HURLEY



Time and Tide

If you bought this magazine on the newsstand, you're part of an exciting experiment. (Exciting to me, anyway.) There's a one-in-four chance that you saw not the usual portrait of a hot new camera, but a crop of the wave photo by Michael Clark that also graces our subscriber cover. For the next three months, we'll test this approach, emphasizing our coverage of techniques over gear. What do you think? Drop

me a line at PopPhoto@bonniercorp.com. I read all letters to the editor, though I may not have time to reply.

This is just one of the changes I'm contemplating six years after taking over this desk. Our happiest development? In the spring we added photo editor Fiona Gardner to our staff. You may have noticed her eye most in features such as "Beauty on the Beach" on page 50. (That's also where you can enjoy Clark's surf image full frame.) In the months ahead, you'll see subtle design changes, too, as art director Jason Beckstead lightens the look of our pages and gives the photography more room to shine.

We have had one big change here that I feel very sad to report to you, however. Our publisher, Anthony Ruotolo, passed away unexpectedly in June. He had worked at *Popular Photography* for nearly 30 years, almost his entire career, and he enjoyed close relationships with his many clients and friends in the photo industry. You may not realize it, but you've seen his influence. Anthony launched our sponsored supplement with Sony, *Alpha Universe*, and he enjoyed creating other kinds of custom advertising in our pages and hosting events on our behalf. Most of all, he loved photography. Having started shooting as a kid, he remained a photo enthusiast and a camera nut his whole life. He was, as Jerry Grossman, executive director of the PhotoImaging Manufacturers and Distributors Association (PMDA), put it in his eulogy, a *mensch*.

Of course, Anthony's loss is greatest to his family, whom he adored. But all of us here at Pop Photo, on both sides of the editorial/advertising divide, as well as at our parent company Bonnier Corp. feel his absence every day. I've lost a partner in the business of this magazine, a road-trip buddy, a champion for *Popular Photography*, and a friend.

That kind of change is heartbreaking and unwelcome. But for you, our readers, our team remains committed to the best kind of change: to growing with you and to continuing to serve you better.

Miriam Leuchter

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NEWSSTAND Most of the newsstands in the U.S. and Canada will have a cover with Brian Klutch's portrait of the Canon EOS Rebel T6s, tested on page 65.

NEWSSTAND/SUBSCRIBER In some markets, newsstand buyers will see the same cover by Michael Clark that subscribers get. Learn his tips on page 50.

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At Ho'okipa Beach, "the home of surfing," you'll capture the action of wind surfers riding the waves. You'll then have

the opportunity to shoot the close-up details of traditional lei making, a Polynesian ritual using braided leaves, flowers and shells.

Alongside your mentors, you'll gain experience using panning and motion blur techniques on the pro mountain bikers soaring through trails in Makwao Forest. Finally, conclude your Maui video with the chance to include the details of a traditional Hawaiian pineapple farm with portraits of the locals.

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SHOWCASE * CANON EOS REBEL T6s

EVENING TRAIN

In the golden light of sunset, senior technical editor Philip Ryan captured this New York City subway train pulling into the elevated station at 238th St. in the Bronx. He shot with the Canon EOS Rebel T6s set to ISO 400 at 1/500 sec, and the EF 16-35mm f/4L IS USM at f/4 and zoomed to 35mm (about a 56mm equivalent). See our camera test on page 65.





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Aspen Photo Art by Larry Bennett

Clear Lake Colorado sets above timberline, about 13,000 ft. close to the old mining town of Silverton. This image is a 7 exposure HDR, shot early morning, in the Summer of 2012, with 24-70mm zoom on a Canon 7D.

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IMAGE BY THERESA THURMAN

NEXT



[THE HOTTEST NEW STUFF]



WE WANT THIS

BIGGER BACK-SIDE

Back-side illumination hits Sony full-frame sensors

AT THE HEART of Sony's new 42.4MP Alpha 7R II you'll find the first full-frame 35mm back-side illuminated (BSI) CMOS sensor. By moving the circuitry off the front, Sony can make larger light-gathering pixels that improve low-light performance.

This innovation leads to the a7R II's impressive top sensitivity of ISO 102,400. And the new sensor can push its data out 3.5 times faster than the original a7R of 2013, allowing for bursts

of 5 frames per second with full autofocus and metering. Plus, Sony embedded 399 phase detection points in this new imager, covering a large portion of the frame, to give you very fast AF even when using a simple mount adapter with lenses designed for DSLRs.

The sensor is far from the only news. The a7R II also has a new shutter with vibration suppression to eliminate the hefty thwack of the a7R, as well as a completely silent option if you eschew the mechanical

SONY ALPHA 7R II

42.4MP full-frame BSI CMOS sensor
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shutter altogether. The same five-axis image stabilization system found in the A7 II is employed here, while the OLED finder gets updated optics and boasts a 0.78X magnification. The camera can record 4K video internally, using the full width of the sensor and without any of the line skipping common when using large sensors to capture video.

Taken together, these upgrades promise to turn our 2013 Camera of the Year into an instrument we can't wait to test for ourselves.

[NEXT * JUST OUT]

LOTTA LIGHT

Sigma's f/2 full-frame zoom pulls it all in

NO, IT'S NOT a typo. That really is an f/2 constant aperture, not f/2.8, on Sigma's newly announced 24–35mm full-frame zoom. The latest entrant in the company's Art line of high-performance glass is the fastest zoom yet for full-frame DSLRs.

Not surprisingly, this is one big optic. Boasting 18 elements in 13 groups, including some larger

Sigma 24–35mm f/2 DG HSM Art lens

Price not yet announced

sigmaphoto.com



aspherical elements and seven Special Low Dispersion elements, it weighs in at more than 2 pounds. The front element does not rotate during focusing, perfect for using optical filters, especially polarizers and split neutral-densities. Sigma promises silent, smooth autofocus—a claim we're looking forward to testing with video—and you can jump into manual override while in AF mode.

The new lens will come in mounts for Canon, Nikon, and Sigma DSLRs, but if you switch your camera system down the road, Sigma's Lens Mount Conversion Service could help you hold onto the lens. As of our publication time, its price and date of availability hadn't yet been announced, but we wouldn't expect glass like this to be inexpensive.

SCREEN SHOT

A more affordable GoPro with a built-in LCD

UNTIL RECENTLY, GoPro made just one action cam with an onboard LCD: The \$400 Hero4 Silver. But now it has company, the Hero+ LCD, priced more affordably at \$300. The new model shoots up to 60 frames per second at 1080p and 8MP stills at up to 5 fps, and its touch-enabled LCD lets you set up and review your shots while you're still out in the field.

GoPro Hero+LCD

\$300, street

gopro.com

Yes, its price is a big step up from the standard \$130 Hero, but that 5MP camera is limited to 30 fps at 1080p, shoots fewer time lapse intervals, and has no built-in wireless. At this price and with a built-in screen, if you're shopping for a compact beyond your phone, why not buy one that shoots HD video, is ultra small, goes underwater, and can be mounted just about everywhere?

NEWS FEED

> Instagram revamped its search functions with a new Explore page. The new section is not only more visually pleasing but also allows users to browse images by trending hashtags.

> Fujifilm released its new XT1 firmware version 4.00 with zone and wide tracking modes, eye detection, auto-macro and more.

Pinhole Positives

ANALOG PINHOLE cameras create amazing images, but you need the right medium on which to record them. Ilford Photo's glossy, high-contrast, black-and-white Harman Direct Positive Fiber Base Paper was a popular choice until production became problematic. Thankfully, by popular demand, Ilford has found a way to bring it back; it should be in stock stateside by the middle of this month.



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* GY-HM200 shown with optional microphone.

[NEXT * JUST OUT]

Lomo LC-A Minitar-1 32mm f/2.8 M

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lomography.com



FLAT GLASS

Lomography cooks up a fancy little pancake lens

STREET SHOOTING can be like the zen of photography—existing fully in the moment and place as innocuously as possible, unnoticed and capturing the pure essence of a place. So, a pancake lens, such as this 32mm f/2.8 Lomo LC-A Minitar-1 makes sense. Mounted on a camera, it practically disappears into the

body. But in this case, that body is a Leica (unless you have an adapter for your Sony.)

Available in a rangefinder-coupled Leica M mount, the Minitar-1 uses a four-step zone focusing system for simplicity, with detentes at infinity and 3, 1.5, and 0.8 meters (9.8, 4.9, and 2.6 feet). Meant to evoke the look of vintage Russian lenses, some vignetting and a funky image rendition should be expected.

SWIVEL PACK

A bag that lets you get at your gear without taking it off

IF YOU HIKE a lot with your camera, you'll need a pack designed for your adventures. MindShift Gear has added a bigger bag to its rotation180° line, which has a special belt pack that separates from the bottom

of the bag and rotates around front, all while your backpack is still strapped on. This means you can change a filter, swap camera bodies, or grab a snack without removing your bag. The belt pack in the new Horizon 34L can hold, say, a Canon EOS 5D Mark III with two lenses, a Sony Alpha 7 with three lenses, or a Nikon D810 with two lenses plus a flash. The main backpack even has a dedicated area for a 3-liter water reservoir.

MindShift Gear rotation180° Horizon 34L

\$260, street

mindshiftgear.com



NEWS FEED



A New CC

Though Adobe's Creative Cloud is all about the incremental improvements, out came a big update in the 2015 version. Of most interest to photographers are updates to the mobile apps and a few new features for Photoshop and Lightroom. Among the more intriguing are LR's new tools for mobile, such as the ability to adjust tone curves, vignetting, and hue/saturation/luminance from your smart device. Adobe improved PS, too, with a real-time healing brush that doesn't make you wait for processing and an improved blur gallery that lets you add realistic grain.



THE LOWDOWN

'FILM' FOR LIGHTROOM

VSCO had made a name for itself in Lightroom-based film-emulation for a good reason: its presets are both beautiful and customizable. The latest pack, Film 07: Eclectic Films, gets away from the trendy and goes for more contrast. Look for our full review on PopPhoto.com.

>The revived Tamrac has introduced a new line of backpacks called Anvil. The packs are said to be light, tough, and ready for anything, and come in a range of sizes from a long, slim model to one that's a little more compact.

>Lomography turned to Kickstarter to raise funds for its newest art lens, the Petzval 58 Bokeh Control Art Lens. The lens will follow the wildly popular 85mm and will have a max aperture of f/1.9.

>Samsung introduced a new firmware update for the NX500. It includes improvements to the overall AF capabilities (like Zone AF mode and Selfie mode), as well as enhanced video recording options.

>Venus Optics, a Chinese camera lens manufacturer, released the world's widest macro lens, 15mm f/4, for full-frame cameras.



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[NEXT * ROUNDUP]

FIXED-LENS CAMERAS

FROM VERY SMALL to rather beefy, these new cameras have one thing in common: You can't take the lens off. Just don't call them point-and-shoots—they pack a lot of power and control.



DxO One \$599 Clad in high-grade aluminum, just 2.65 inches tall, and weighing 3.2 ounces, DxO's first camera is meant to go everywhere. A built-in swiveling Lightning connector attaches it to your iPhone or iPad. Its 32mm (equivalent) f/1.8 lens feeds light to a 20.2MP 1-inch BSI CMOS sensor. It can capture RAW images and records to microSD cards and/or your camera roll. A SuperRAW mode combines four exposures to reduce noise. Plus, it comes with DxO OpticsPro and FilmPack software.



Ricoh GR II \$797 We loved the original Ricoh GR for its 16.2MP APS-C-sized CMOS sensor, 28mm (equivalent) f/2.8 lens, and highly customizable controls. Now, Ricoh has added Wi-Fi and NFC, in-camera RAW processing, six new effects modes (for 17 total), Full HD video, and wireless control of Pentax AF360FGZII and AF540FGZII flashes. Apps let you control and trigger the GRII remotely and transfer images to a smartphone or tablet.



Sony Cyber-shot RX100 IV \$948 Sony's new 20.1MP 1-inch CMOS stacked sensor puts processing and DRAM memory into the same pile of silicon as the imager. It also reads out data five times faster than the previous RX100. This lets the Mark IV record HD video at up to 960 frames per sec (40X slow motion) or 4K video using the full width of the sensor. You can also shoot stills at up to 16 fps, and the electronic shutter reaches 1/32,000 sec.



Canon PowerShot G3 X \$999 Combine a 20.2MP 1-inch CMOS sensor, Canon's Digic 6 processor, and a 24–600mm (equivalent) f/2.8–5.6 lens with image stabilization and you have the new PowerShot G3 X. The dust- and moisture-resistant magnesium alloy body has a microphone input and headphone output for use with 1080p60 video recording. Sensitivity spans ISO 125–12,800; Wi-Fi and NFC help to connect it to your phone or Canon's Image Station.



Leica Q \$4,250 In case the 35mm lens on Sony's RX1 is too long for you, Leica has unleashed this 24MP full-framer. Its 28mm f/1.7 Summilux lens has a nice wide angle of view—see it in the 2.68-million dot EVF or 3-inch 1.04-million dot LCD. A ring on the barrel lets you switch to macro mode to focus as close as 6.7 inches. Bursts go to 12 shots at 10 fps, video to 1080p60. Wi-Fi lets you use your phone to transfer images or control the camera.

NEWS FEED

> Cotton Carrier released a new product: the CC Endeavor Belt. The belt supports one camera (a full-frame DSLR or a mirrorless system) and comes with a shoulder strap and a pouch for one small accessory.

> Show off your best photos of the world around you by entering the 2015 USA Landscape Photographer of the Year competition—the deadline is August 15. Winners will have their photos and stories showcased in our pages.

> A new study from scientists at the University of Illinois revealed that the human eye needs only three particles of light for the rods to activate, enabling us to see.

> The newly released Polaris Karat flash meter features bright LCD readouts in a slim, lightweight package.

TOOLBOX



DRESS UP YOUR GEAR

JUST LIKE its namesake serpent, Booq's Python Catch camera bag exhibits a quiet cool on the outside but can swallow a lot more stuff than you'd think. Clad in a heathered gray blend of recycled PET and cotton material, this elegantly designed shoulder bag is weatherproof and rugged, despite its smooth, matte surface. (It also comes with a rain cover in a pouch for extra protection.)

Inside, the Python Catch (\$295 from booqbags.com) has room for a big pro-level DSLR or two smaller bodies, plus up to four lenses and accessories. If you want to slip a 15-inch notebook in there, you can try, but it will have to be your newest slim model. A separate zipped panel on the front, under the top flap, holds the small stuff.

And each bag bears a metal plate with a serial number and barcode for Booq's lost-and-found tracking service.

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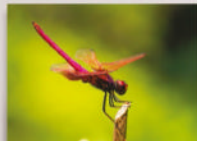
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PHOTO CHALLENGE

A FOREST FIND



Sparkling droplets take our prize for a rainy-day photo challenge

IVAN GALIC, 33, a marketing professional who lives in Split, Croatia, has pursued photography for nearly six years. It was on Croatia's island of Solta that he managed to capture this winning photo. While taking a stroll after

the rain in a forest on Necujam Bay, he hoped to stumble on the perfect subject. And that's exactly what he found by zooming in on this droplet-laden plant.

Galic took advantage of the wet environment and the naturally diffused sunlight in order

Using Canon's Close-Up Lens 500D on his 55-250mm f/4-5.6 EF-S IS lens, Galic set his EOS 60D to 1/250 sec and f/11, ISO 800.

to craft a beautiful close-up. He shot handheld with a Canon EOS 60D and 55-250mm f/4-5.6 Canon EF-S IS lens, to which he added Canon's Close-Up Lens 500D to let him get in tight for a true a macro feel.

—Sara Cravatts

NEXT PHOTO CHALLENGE

In "Beauty on the Beach" (page 50), pros share their expert tips on photographing the stunning shoreline. Send us your best waterside shot by August 31, and you could earn \$100 and your story here. Read the rules at PopPhoto.com/contests.

IVAN GALIC

SHARE MY PROJECT



HOUSE PARTY

Opera houses on a grand scale

PERFORMERS YEARN for center stage. This nexus of light and sound is where David Leventi often finds himself in opera houses around the globe—not to sing, but to capture in pristine equilibrium the grandeur and

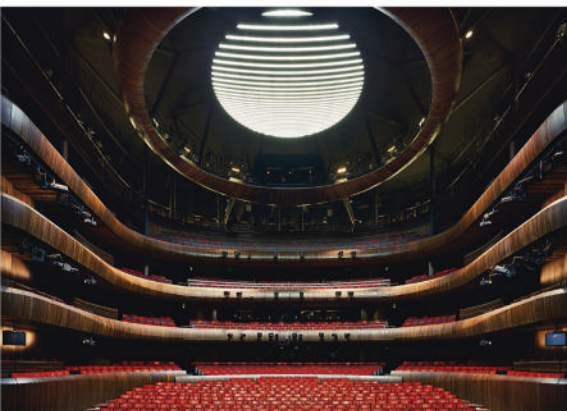
enormity of these buildings.

The son of architects and the grandson of opera lovers, Leventi steeped his series, *Opera*, in family history. He began with a shot of a theater in Bucharest, Romania, where he visited to explore his roots. “It was important for me to take the picture from center stage, from the perspective of

the singer, from the perspective of, if my grandfather was on stage singing, where he would stand,” says Leventi, whose maternal grandfather, trained in operatic technique, also sang Jewish liturgy as a cantor in a synagogue. “When you’re standing there, you get that all-encompassing feel of the whole.”



Photographer David Leventi lives in Brooklyn. His monograph, *Opera*, was published by Damiani in June.



AROUND THE WORLD Leventi's project has put him on stages from Bayreuth, Germany (opposite, left) to Buenos Aires (opposite, top right) to Death Valley Junction, CA (above, bottom left).

This large-scale architectural imagery, an exercise in balance and spacial organization, is also a methodical typology. Using large-format (4x5 and 8x10 inch) Arca-Swiss cameras and wide-angle lenses, he shoots from a central spot where the whole room coalesces symmetrically. His camera's ability to change the relative angle of the lens and focal plane help maximize the depth.

Though Damiani recently published *Opera* as a book, the

work is best viewed on a gallery wall, where some of his prints measure as large as 72x90 inches. At this enveloping size, they also encourage the discovery of small details: Marc Chagall's signature can be seen on the ceiling of Paris' Palais Garnier; in Milan's La Scala, fabric from the boxes has been flipped over the balcony by the cleaning crew; a worker dozes in the seats of the Metropolitan Opera in New York City.

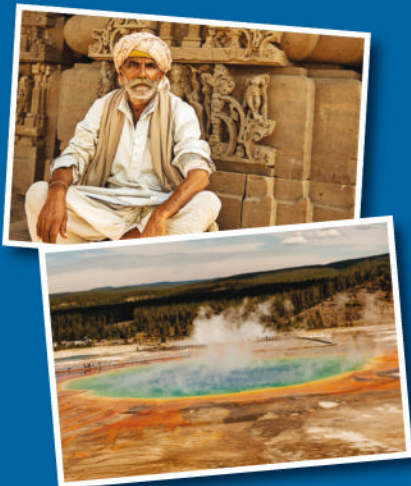
"I like a sense of irony," Leventi

says. "There's that decisive moment, going back to my love for Henri Cartier-Bresson. There's something different that makes you question something, think about something differently."

He sees opera as a culmination of myriad art forms, from music to sets. His photos—which draw on personal and cultural history, typologies and documentaries, large-format scope and a 35mm mentality—pay it a fitting tribute.

—Jon Blistein

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MODEL FRIEND fellow workshop participant Wayne March posed for Mike Kerouac, surrounded by Nelson, Nevada's many photogenic objects.

WHEEL DEAL

Combing a Nevada ghost town for signs of life

ON A MENTOR SERIES location lighting workshop, Mike Kerouac walked through the ghost town of Nelson, Nevada, population 37, engrossed in its weathered wood, tumbleweeds, and early 20th-century signage. The town's well-preserved barns, shops, and antique mining structures all appealed to this tech exec from suburban Boston. Great backgrounds were everywhere.

A rusty bike balanced on a stand in a weather-beaten and prop-filled barn caught his eye. He set up his strobes and softboxes, then made a few tests. But something was missing: Someone should be on the bike, he thought.

Kerouac and his son Chris are veterans of three Mentor Series trips, including the lighting excursion to Nelson. Apart from studio location lighting, a take-away from Nelson for Kerouac was "that the Golden Hour is real. Images taken around sunrise and sunset really do have much greater appeal than images taken midday. With



MIKE KEROUAC
 After trips to Tampa and Eastern Europe, he has his sights set on Quebec City and Yellowstone.

most city- and landscapes, side lighting creates more depth in an image than front- or back-lighting can," says the photographer.

But that wasn't his biggest lesson. While working with the group, he realized that photography could be a great team sport. "We all worked together during the shoots. One of us steadied the light stand, while another one held and aimed the back- or fill-light, and a third person took pictures. The process worked well all day long," he says.

The photo here illustrates that team spirit. When Kerouac mentioned that the bicycle scene needed a figure in it, co-participant Wayne March set down his camera and jumped on the bike, grinning from ear to ear.

—Peter Kolonia

MIKE KEROUAC (CYCLIST); CHRIS KEROUAC (HEADSHOT)

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SEEING STARS

I just read your interesting "Star Power" article with Chris Tennant in the May issue. The article talks about the amount of time for each exposure (45-120 sec), and the benefits of stacking multiple short exposures, but nowhere in the article does it say how many photos are stacked in the sample image. Or in other words, how long the total exposure time is to achieve these results. Based on the wording, I think a lot of readers might assume this photo was taken with a handful of stacked photos, but I suspect

capturing an image like this probably takes dozens of exposures over the span of an hour or two. I would hate for people to try this and come away disappointed because they didn't take enough exposures while standing out in the cold night air. Any idea how long this overall exposure was?

Jeff Sprague
Morgan Hill, CA

CHRIS TENNANT RESPONDS:

My image was created by stacking 105 photos, each with an exposure of 45 seconds. That's an effective exposure of almost 80 minutes (105 photos x 60 seconds). Star trails are a result of

the earth's rotation. If it were possible to take a 24-hour star trail photo, each trail would make a closed circle, 360 degrees. So yes, longer exposures can lead to more dramatic results, but even an effective exposure of 15 minutes will give you very noticeable star trails.

POPULAR PHOTOGRAPHY

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SHARE * YOUR TURN

FROM THE FIRST sentence of your June wedding story, it seemed aimed at the amateur photographer who shoots a friend's wedding. But it read more like a guide to a professional shoot. You left out an important event, one that I make sure I do, and that is to follow the bride and groom around and shoot them with all the guests when they visit tables during dinner. And with the use of cellphones, Facebook, Instagram, etc., I'm not sure that the wedding photographer is as critical anymore to record the event.

David Lubin
Tampa, FL

POP PHOTO frequently uses the word "bokeh." It is unfamiliar to me, and I don't find it in my Webster's *New Collegiate Dictionary*. Would you please define the word and explain its application to photography.

Alan Mark Fletcher
Ithaca, NY

f FROM FACEBOOK

OUR POST on a photographer's letter to Taylor Swift about the agreement anyone shooting her shows must sign encouraged a slew of Facebook debates. For Instance:

The performing artist (whether it's Swift or anyone else) has the right to determine who can or cannot take photos of his or her performance.
—David Anderson

It has to be ethical values; if she wants to get paid, photographers want to get paid also. What goes around, comes around!
—Carolina Burgos

Apples and oranges. You have a choice not to photograph at her shows.
—Henry Yamamoto

EDITOR'S NOTE: Bokeh, from the Japanese word for "fuzziness" or "dizziness," refers to the quality of the out-of-focus areas in a photo, especially evident in the highlights.

IN THE JUNE issue a reader wrote in to say that the design of the collar [in the Editor's new headshot] detracts from the photo and draws attention away from her face. To the contrary, I feel that the collar adds to the image in two ways: It acts as an eye-stop to keep the viewer's eye from wandering out of the image,

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and the collar keeps the face from disappearing into the white vastness of the background. It needs to be there.

Bob Beary
Liverpool, NY

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PEOPLE PLEASERS

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3rd Place \$100 Prize

JOANNA POLLING, 39, STAY-AT-HOME MOM, PEORIA, ARIZONA

The photographer captured this intimate moment between her daughter Kat and puppy Cody by chance in her daughter's bedroom at home. "I saw that the light looked really pretty so I grabbed my camera," says Joanna Polling. She used only the natural light streaming through the window shades and framed so that the streaks of sunlight touched just the right spots on Kat's face and the wall behind. In editing, Polling made minor adjustments to white balance and contrast. **TECH INFO:** Canon EOS 5D Mark II with a 24-70mm f/2.8L Canon EF lens; 1/200 sec at f/3.5, ISO 640. Edited in Adobe Photoshop Lightroom and Photoshop CC.





▲ 2nd Place \$200 Prize

**JESCA CLUFF, 26, PHOTOGRAPHER,
OREM, UTAH**

After attending a fashion show by a local Utah designer, Jesca Cluff, a fashion and beauty photographer, was inspired to plan a dark and moody shoot to showcase the clothing line. She took this picture in a studio working with a professional model, but let the posing stay spontaneous. Cluff lit her shot with a large octobox at the front and used a red gel directly behind her subject. The red rim light gave her series a focus and made the shot even more dynamic. She later used Photoshop and Lightroom to mask the model and add hints of red to the background.

TECH INFO: Canon EOS 5D Mark III with 70–200mm f/2.8L Canon EF IS II USM Canon lens; 1/125 sec at f/13, ISO 100 with PCB Einstein lights. Edited in Photoshop C6 and Lightroom 4.

1st Place ► \$300 Prize

**SABINA MIKLOWITZ, 24, PHOTOGRAPHER,
BROOKLYN, NEW YORK**

After taking home the prize in our January Photo Challenge, Sabina Miklowitz wowed us again with another shadowy portrait. In an attempt to channel her California roots and create a softer, lighter-hearted fashion portrait, Miklowitz captured her flame-haired professional model soaked in natural light. After her initial attempts to focus on flowers in the background proved unrewarding, Miklowitz instead made the picture all about the sunlight filtering through the brim of the model's hat. The way the light mimicked her freckles created an interesting visual effect. She finished by correcting color and contrast in postprocessing. **TECH INFO:** Canon EOS 7D and 50mm f/1.8 Canon EF lens; 1/50 sec at f/5, ISO 100. Edited in Phase One Capture One 6 and Photoshop CS6.





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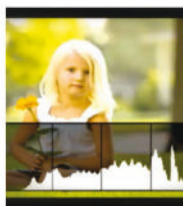
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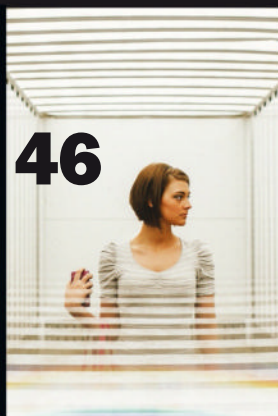


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MASTER DIGITAL COMPOSITING



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CREATIVE THINKING

HEAD START

Try this surprising approach to corporate headshots

WHEN SALT LAKE CITY-based advertising photographer Chad Hurst accepted a job to shoot staff portraits for an ad agency, he didn't expect anything more than the usual lighting, posing and scheduling challenges. Maybe an out-of-the-way location. The agency, however, had radically different ideas.

Thankfully, these were very creative. "All 25 employees at the agency rented costumes, some of them very elaborate, and they brought in makeup and stylists," Hurst says. "I actually had no idea what people would dress up as beforehand, and I had about ten minutes between each person to get their ideas." For Hurst, the biggest surprise was a designer who came fully dressed as Marie Antoinette.

Hurst knew only that the 18th century French queen was "an awful person," that she had

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been guillotined, and that she supposedly said, “Let them eat cake” in response to being told French peasants had no bread. “Naturally we thought to pose her holding a piece of cake on a fork and looking haughty with her nose in the air,” he says.

But Hurst thought more deeply about how he could style this portrait. Instead of a straightforward shot, he decided to use software to take the portrait a step further. “What if she was holding her own head?” he wondered.

“I wanted the portrait to be shocking but not too dark or macabre because I knew the image would speak for itself,” Hurst says. So he posed the costumed designer straight-on against a canvas backdrop and directed her to look surprised with mouth agape.

From past jobs, Hurst knew the ease with which he could pull off the illusion because the wig that came with the costume conveniently included a mannequin head.

All he did was have his client cradle the plastic “head” and wig in her arm. Later in post production he would move her face over to the mannequin’s head. Having her fingers and hair already in place made the task that much easier.

“The neck parts were actually the most difficult,” he says. “I found a bloody stump on a stock site and then dodged and burned pieces of it to make it believable, although I’ve never actually seen one.”

Unsurprisingly, reactions to the portrait have been overwhelmingly positive. In fact, we think it’s safe to say that no client has ever been so delighted to be beheaded.

—Laurence Chen



CLAUDIA COOPER

GO RED

Warm up the warm tones

CLAUDIA COOPER'S colorful shot of Washington State's Skagit Valley during the annual tulip festival is beautiful, but a little over-saturated, over-sharpened, and cool toned. I would do my best to make the overall color palette appear more natural and avoid over-saturating by starting in Adobe Camera Raw.

I opened Cooper's original Raw file, and, noticing in the metadata that the image had been shot in the morning, I felt justified in warming it up a bit. I previewed each of ACR's white balance presets, and selected Shade. It knocked down the blue nicely, making for cleaner color overall.



I saved that and reopened the image in Adobe Photoshop CS6. My first task was to make a Hue and Saturation adjustment to the red channel, bringing down saturation there. This gave the tulips more shape and eliminated their slightly flat, cartoonish quality. I then made a Levels adjustment to the overall image, bring up the highlights and lowering the shadows. The result was slightly higher contrast and snap.

Fix time: 5 minutes. —Fiona Gardner

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GOOGLE HAS upgraded its image storage site at photos.google.com, and not surprisingly, its search capabilities stand out. After uploading your photos, try either of these searches, neither of which require tagging or pre-identifying faces, places, or things. In the app's People search field, click on a face, and your photos of that person quickly populate the screen, both full-face and profile, and from infancy through adulthood. Thanks to street views collected for Google Maps, the site can also identify thousands of locations, no GPS data required. Did you take a great shot in Yosemite? Type “Half Dome” into the Search field and Google can find it.

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HOW ★ TRAVELING PHOTOGRAPHER



GREAT LAKES

Enjoy the camera-ready charm of New York's Finger Lakes

"THE FINGER LAKES is a fantastically varied area," says photographer Derek Doeffinger, who has been shooting in the region for 30 years. "You've got dozens of waterfalls and 11 glacier-carved lakes, some surrounded by high hills that give amazing views, plus picturesque villages, Amish and Mennonite farms, and over a hundred wineries."

Spectacular waterfalls abound in the area. "For water on the move, you can't beat Ithaca," he says. "It has several state parks with easily accessible waterfalls."

Buttermilk Falls State Park and Robert H. Treman State Park, only a few minutes south of town on Route 13, both offer pretty falls on easy trails. His favorite though: Taughannock Falls State Park.

"The park offers one of the most magnificent waterfalls in the East," he says. "From the parking lot on the west side of Route 89, you can take a 3/4-mile flat hike to the base of the east-facing 207-foot falls."

Lake vistas, of course, are a big visual draw for the region. Doeffinger suggests four photogenic Finger Lakes that are relatively close together, making for a reasonable drive. Going from west to east, they include Honeoye Lake seen from the Harriet

OTHER OPTIONS

Besides the landscapes, you'll find plenty of fun that's photo-worthy, too.

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• **CORNING MUSEUM OF GLASS** **One Museum Way, Corning.** This is the largest and most comprehensive collection of glass in the world. Exhibitions showcase 35 centuries in the art of glassmaking. You can photograph most of it—no tripods or flashes—including the continuous live demos. cmog.org

• **STEBEN COUNTY FAIR** **August 18-23, Steuben County Fairgrounds, Bath.** If it's pie eating, turkey calling, harness racing, horseshoes (the pitching kind), and all things agricultural you're after, look no further. Celebrating its 196th year, this is the oldest continuously held county fair in the U.S. steubencountyfair.org

• **WATKINS GLEN INTERNATIONAL RACE COURSE** **2790 County Route 16, Watkins Glen.** If you want to hone your action-shooting skills, swing by "The Glen" for the NASCAR K&N Pro Series East, Xfinity, and Spring Cup Series run from August 6 through 9 during the Cheez-It 355 competition. Tickets run from \$10 to \$150 per event. theglen.com

WATKINS GLEN STATE PARK GORGE

A must-see attraction of the Finger Lakes region, the gorge requires a challenging walk, but great pictures await. After heavy rain, the trail may close. Check the park's website before you go.

Hollister Spencer State Park. The park offers glorious high and far north-looking vantage points

Nearby Canandaigua Lake is best photographed from the vineyards along Route 12 on the southwest end of the lake. Also nice: the south-facing views from Kershaw Park on the north end of Canandaigua Lake. "Early or late in the day is usually best," says Doeffinger.

Next is Keuka Lake. View it from the town of Hammondsport on the G.H. Taylor Memorial Drive. It provides what many consider the most spectacular vistas in the Finger Lakes region. Running almost parallel but a bit lower is South Pulteney Road, with its picture-perfect lake and farmland views.

Last and largest is Cayuga Lake. Start at Stewart Park on the south end with its large willows along the shore that will give a Japanese print flavor to your photos. A small marina a half-mile or so up the east side from the park brings out sailboats, windsurfers, and action-addicted photographers.

—Jeff Wignall

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[HOW * LIGHTING]

WET SET

Create and light rain effects

STEPHEN CARROLL, a freelance photographer from Reston, Virginia, specializes in artwork for book covers, with more than 400 (mostly novels) to his credit. They're not just any book covers, though. His genius lies in creating *film noir*-like scenes, complete with desperate lovers, soaked T-shirts, smoking guns, and, of

course, stormy weather. "I do cinematic stock photography," he says, "and there's nothing like the dark of night and pouring rain to remind you of early Hitchcock."

But it took Carroll a while to nail the cinematic look. Rain's transparent quality is hard to light. "You can't frontlight it," he says. "You can only see falling water when it's backlit."

Be careful that your backlights don't shine directly into the lens,

Carroll's inspiration for this photo was the 2005 neo-noir film *Sin City*. He jokes that "it had fake backlit rain in almost every scene."

because if they do, you'll get flare and lose the *noir* look. Put them off to the side or directly behind and blocked by your subject.

A single backlight will work, as this shot proves. That's how Hollywood usually does it, because it adds more contrast and drama. For full figures, though, you need two backlights. "And that's a problem, because a backlight on each side produces two reflections on each drop. You get so many



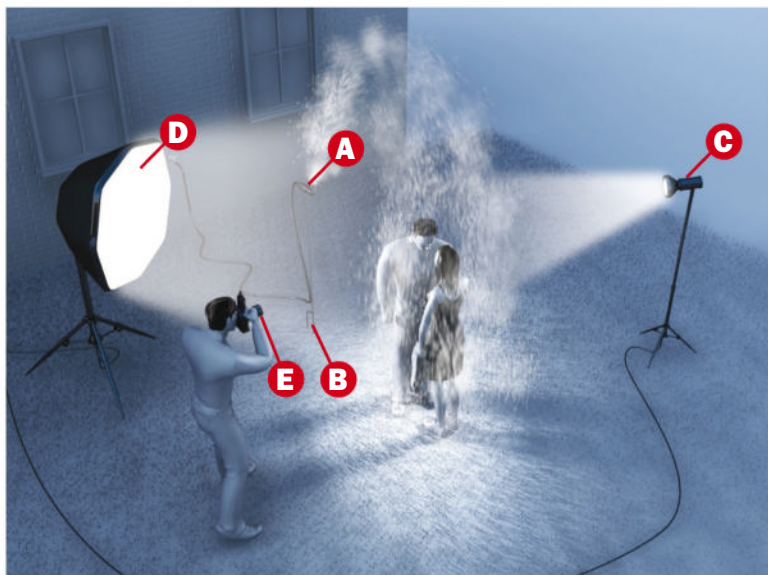
If you'd like to try a shot like this, have plenty of towels on hand and get accustomed to talking loudly. Once the water was turned on, Carroll had to shout to be heard by his models. He exposed this shot for 1/125 sec at f/5.6 and ISO 100. For more of his work look for his Fotofiction stream on [flickr.com](https://www.flickr.com/photos/stephen_carroll/).

white streaks that you almost can't see the subjects," says Carroll.

The light source makes a difference with rain. Off-camera hotshoe flashes produce snow-like points of light because of their quick flash durations. A continuous light source yields straight streaks of light; the longer your shutter is open, the longer the streaks will be. Carroll's preference? The "tadpole swimming upstream" effect that

ILLUMINATING FALLING WATER

SIMPLE  COMPLEX



KRIS HOLLAND/MAFIC STUDIOS

To create the effect of rain, photographer Stephen Carroll started by duct taping a garden hose and adjustable sprayer attachment (A) to a rod driven into the ground (B) in his backyard. With the sprayer aimed upward, he adjusted its output so the falling droplets would simulate rain. He used a stand-mounted Adorama Flashpoint strobe head and reflector (C) to backlight the drops, and a second Flashpoint in a softbox (D) to frontlight the models, both fired by a Flashpoint wireless trigger. His camera and lens were the Canon EOS Rebel T1i and Canon EF 18-55mm f/3.5-5.6 IS II lens (E).

"Before I turn the water on, the models and I go through many [dry] practice runs to get the poses down," says Carroll. He schedules "rain" shoots only during the hottest nights of summer, because if it's too cool he's in for hours of cloning out goose bumps later.

THE GEAR



Adorama Flashpoint monolight (\$100, street)



Adorama Glow 24x36-inch softbox (\$35, street)

is produced by a studio strobe. "Its initial pop is very bright, producing the 'tadpole's' head. As the light slowly dies, it produces a progressively thinner 'tail.'"

But there's one important fact to keep in mind: Water and electricity don't mix. If you're shooting with studio strobes outside, your outlet should be a ground fault circuit interrupter (GFI). This will kill the electricity instantly if water causes a short

circuit. If you have the choice of shoe-mount or studio strobes, or if you're just starting out with such techniques, go with the shoe-mount to eliminate the risk of electrocution.

By the way, Carroll did not shoot this photo in actual rain. Instead, he created the scene outside using a garden hose and sprayer. The sidebar and illustration will tell you how.

—Peter Kolonia



AFTER

BEFORE



COMPOSITE CAR

How to make the rubber meet the road

TORONTO-BASED Steve Moretti's love of automotive photography is evident in his pictures. And to create images of cars on location, this pro often works closely with retoucher Thomas Dziedzic of Ditomasi Productions.

For this composite, Moretti captured the background scene at sunrise, shooting multiple sets of about seven bracketed images 2/3 or 1 stop apart. The car in this image was shot in a separate location with less traffic but similar lighting

conditions so it would match the background. Moretti used the same lens, height, and angle as he did for the background. Before wrapping the shoot, Moretti cut out the car in Adobe Photoshop and pasted it onto a background image, or plate, to ensure it matched. Then he sent all the images to Ditomasi Productions to work its magic.

Given the complexity and detail of this composite, we streamlined this tutorial to show you the basic process.

—Theano Nikitas

Steve Moretti worked with retoucher Thomas Dziedzic of Ditomasi Productions to merge the car with the scene.

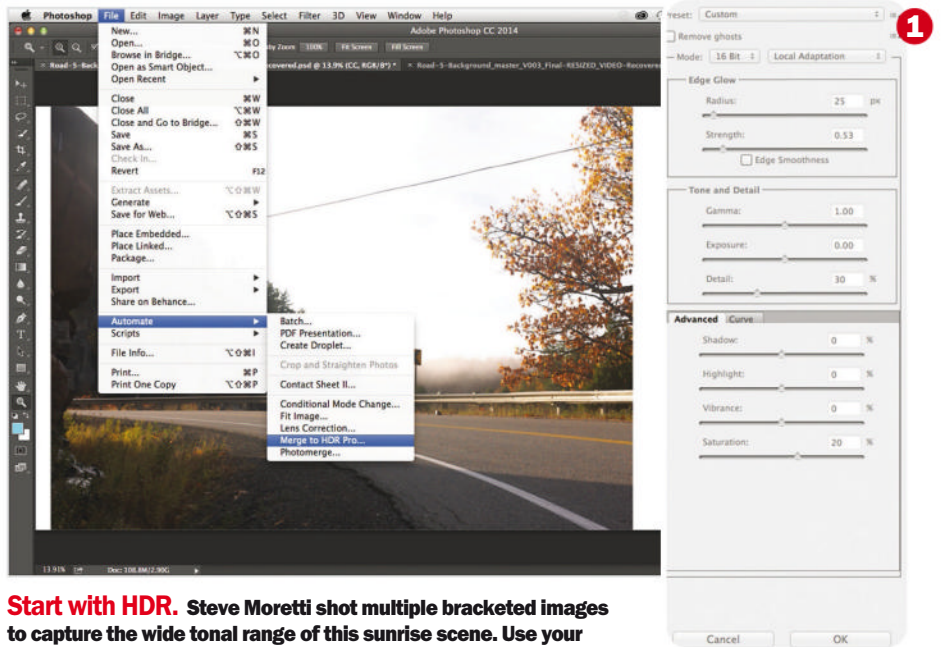
QUICK TIP

Rather than simulating the spin of a moving tire in postprocessing, Moretti turned the wheel to the appropriate angle, put the car on a jack, and blocked off the wheels on the ground. He turned the tire by wrapping it with tape (you can also use rope) which he quickly ripped off to get it spinning. An assistant shot the wheel at a slow shutter speed to capture its movement.

Step 1

Build the background.

Open the background plates (bracketed images) or place all the plates in a single folder. In Photoshop, go to File > Automate > Merge to HDR Pro (or use a plug-in—Ditomasi Productions used Photomatrix). Select the files you want to merge and click OK. In the Merge to HDR Pro dialogue, remove any ghosting and adjust other parameters as needed.

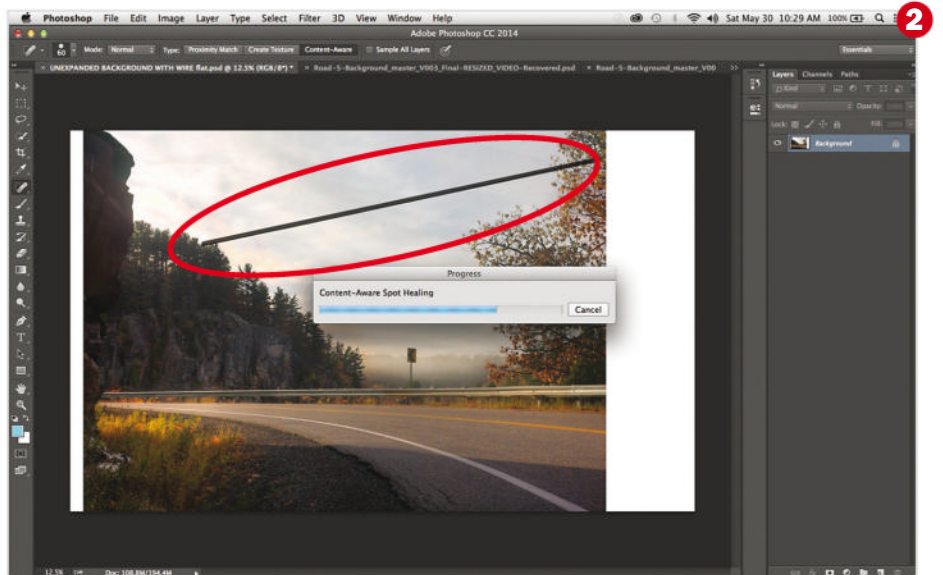


Start with HDR. Steve Moretti shot multiple bracketed images to capture the wide tonal range of this sunrise scene. Use your favorite method to merge the shots.

Step 2

Remove distractions.

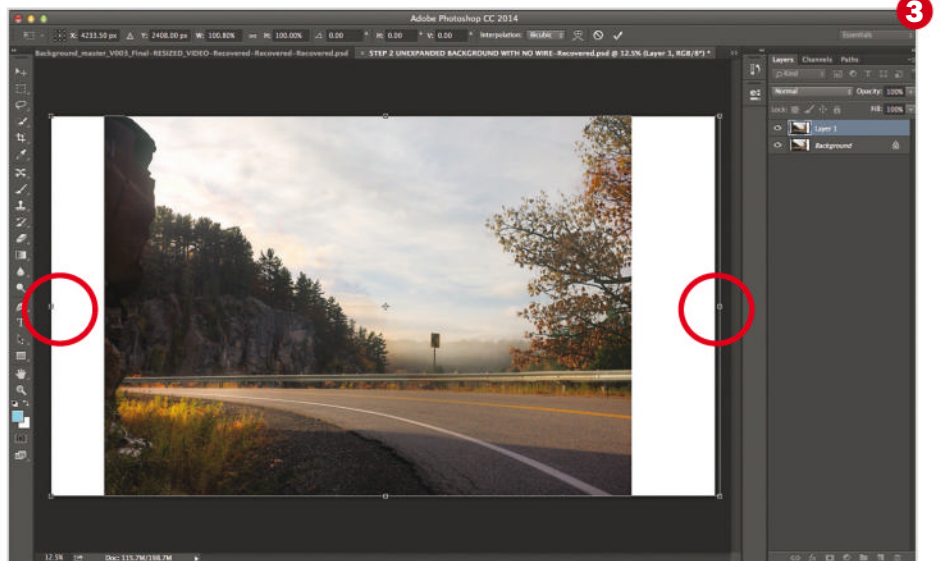
Create a clean canvas to draw the eye to the main subject by removing visual distractions, such as the wire overhead. The yellow mid-line was also eliminated to visually broaden the road. Choose the Spot Healing Brush tool [J], and use a hard-edged brush about the same diameter as the object you want to remove. Select Content-Aware Fill in the options bar. For continuous elements, such as the wire in this image, click on one end, hold down the Shift key, then click on the other end (shown circled in progress). Use the Spot Healing Brush to selectively paint out other elements as necessary.



Step 3

Expand the background.

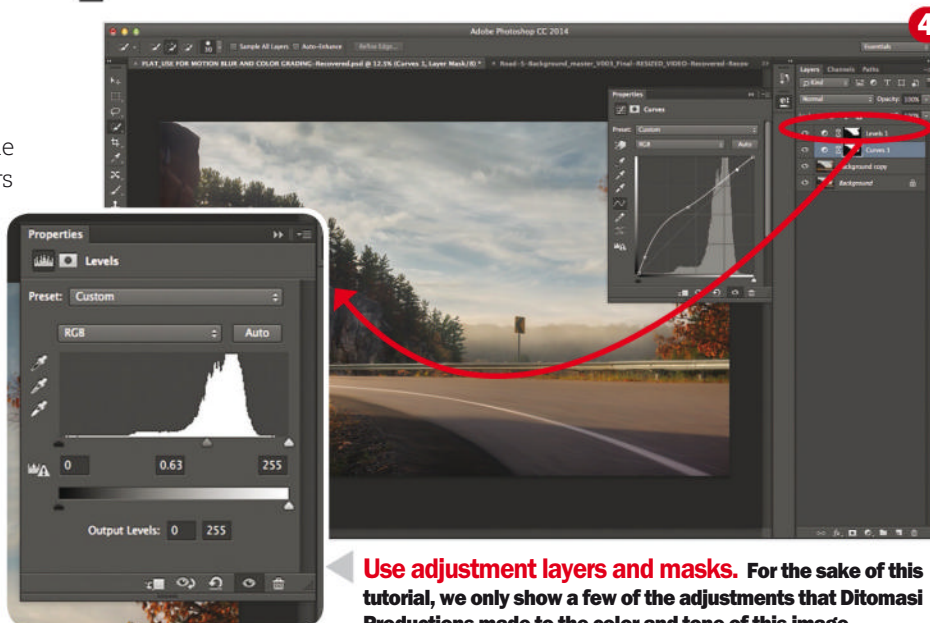
Ditomasi expanded the background horizontally to balance the composition and give the car more room to visually move forward in the scene; otherwise, the car would essentially have nowhere to go except off the edge of the canvas. To expand the background, duplicate the background layer. Select the new layer. Go to Edit > Transform and grab the center handles (circled) at the horizontal edges of the canvas (the white area; not the image itself). Drag the edges of the canvas to the desired width and. Click the checkmark to apply the adjustment.



Step 4

Correct the color.

To balance the color temperature of the merged background plates so it appears that they were all shot at the same time of day, apply adjustments as needed. The retoucher used multiple layer adjustments to tweak the sky and rock formation at left. First, select the sky (the Quick Selection tool worked well). Go to Layer > New Adjustment Layer and choose Levels, Curves, or Hue/Saturation. Select and add new adjustment layers as needed.

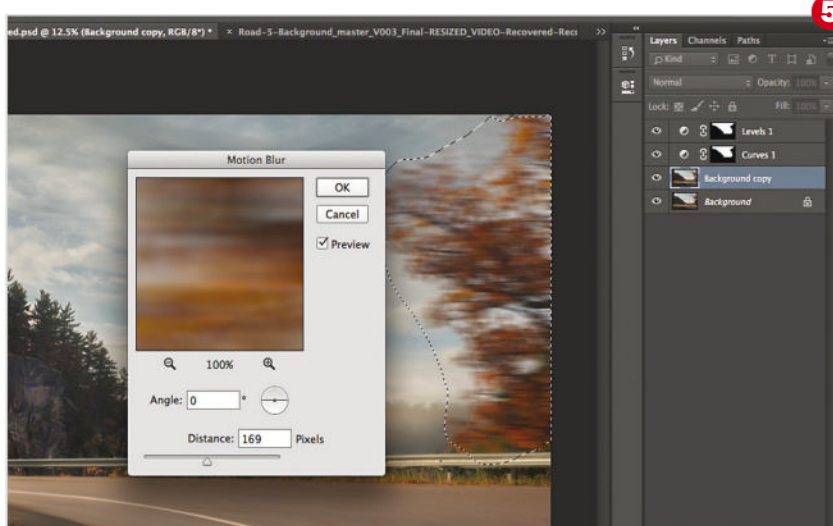


Use adjustment layers and masks. For the sake of this tutorial, we only show a few of the adjustments that Ditomasi Productions made to the color and tone of this image.

Step 5

Invent motion blur.

To create the illusion that you were shooting from a lead car, add motion blur. In this image, blur was added to the tree, part of the road, the railing, and the foliage in the lower left. First, duplicate your background layer. Then use the Lasso tool to select an area to blur. Go to Filter > Blur > Motion Blur. Adjust the Angle to simulate motion direction (90 degrees is vertical). Start with a 0 degree angle for a right-to-left motion. Adjust Distance to increase or decrease the amount of blur. Repeat as necessary throughout the image.



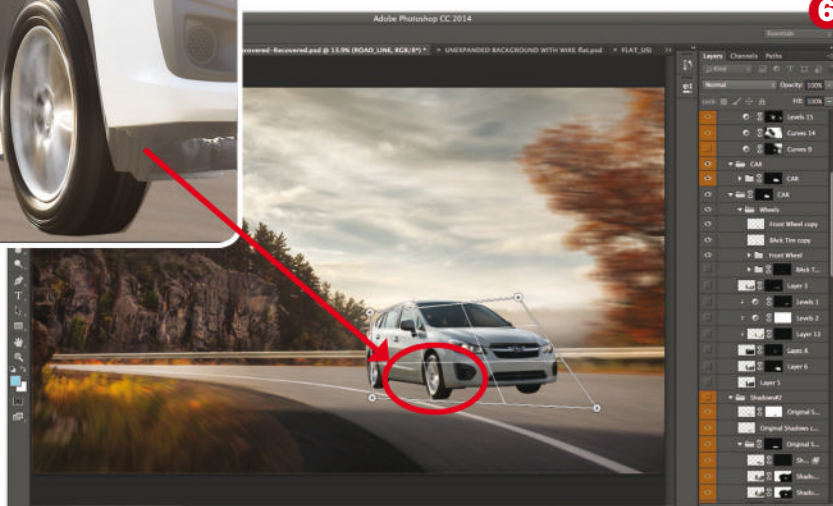
Final Step

Add the car.

As in step one, merge the bracketed shots of the car. Use the Pen tool to cut it out (and its shadow, if possible) and paste it onto the road. Go to Edit > Transform, then grab a corner handle and hold Shift to adjust size and angle without altering proportion. If necessary, use Perspective Warp (Edit > Perspective Warp) to adjust the car's placement to fit the overall perspective. If you have a photo of a spinning tire (see Quick Tip), cut and paste it into place; Ditomasi Productions used spinning tires on both front and rear tires.



Spin your wheels. The real-life motion of the car's tires makes the image more convincing. At right, you can see the masses of layers that make up the result.



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[**HOW** * YOU CAN DO IT]



JACOB LOAFMAN

GO PRISMATIC

For an offbeat look, shoot through a prism

JACOB LOAFMAN likes tacos. This is one of the many things you learn about the St. Louis-based wedding photographer from his enjoyable website jacobloafman.com. Another thing you will learn is that he has a thing for prisms. “If I have a subject in the middle of the frame and it’s just not working for me, I pull out a prism. I’m often surprised by how much a hint of a rainbow or a dreamy reflection can add to a scene,” he told us.

How does he use them? He places a glass prism (no plastic, please) in front of his lens, either covering the entire front element or just part of it, and then tilts, swivels, and turns the prism until something interesting happens. Then he snaps the shutter.

He often uses a prism’s colorful reflections to block out distracting elements in a scene he’s photographing. “If a groom is getting ready in a hotel room, for example, and the bed he’s sitting on is cluttered with luggage, I use

the prism to cover that side of the frame. It may just be a streak of light, but it’s usually enough to take care of the problem,” Loafman says.

The sometimes dreamy, sometimes romantic effect doesn’t have to be big. “It’s often subtle, and subtle is good,” he quips. —**Peter Kolonia**

Step 1

Gather your gear.

Loafman sources his prisms online and gets them in a variety of shapes, with a range of facets from simple to complex. They usually cost less than \$20, and he recommends glass over plastic prisms for their clarity. “I typically use prisms with wide lenses, because wider lenses give you more freedom in placing the prismatic effects within a frame,” he says.

Step 2

Scout locations.

Often backgrounds with symmetrical patterns work best, as in the picture here. The patterns can be interesting when they’re repeated in the prismatic reflections.

Step 3

Compose in your LCD.

When you start shooting, Loafman recommends using your camera’s live-view mode. “As I twist and turn the prism in front of the lens, I preview the effect in live view. If I like it, I shoot. If I don’t, I move on,” he says.

Step 4

Experiment.

Getting the right prismatic effect comes only with trial and error. Twist, turn, rotate, flip, and place the prism over a variety of places within a scene. “Prisms don’t work with all scenes and there are no rules regarding their use,” says Loafman. “Put one in front of your lens and have fun.”

Step 5

Finesse the image in software.

For this image, Loafman used modified presets from the VSCO Pack 05 filter set. “I pulled the highlights down and pushed the shadows a bit. Then I added a bit of contrast and sharpening,” he says.

Loafman shot this portrait inside a tractor trailer. “I used a prism to repeat a pattern that leads the eye right to my model,” he says.

THE GEAR



Loafman used a Sigma 35mm f/1.4 DG HSM Art lens (A) on a Canon EOS 6D body (B). He exposed the scene for 1/320 sec at f/2.2 and ISO 200.

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BEAUTY ON THE BEACH

From split-second shots to leisurely long exposures, here are five pro secrets for great seaside pictures. Try them, and you're sure to return from vacation with more than just a suntan. *By Jack Crager*

WAVE FORM
Clark caught this wave with a Nikon D700 and a 500mm f/4G ED VR AF-S Nikkor telephoto lens; exposure 1/2000 sec at f/5.6, ISO 400.

MICHAEL CLARK

Catch a Wave

Ah, the stuff of summer dreams—the sweet spot where sand meets sea, where children play and adults lounge, where oceanic wonders call out invitingly—the beach is a photographer's paradise. And it can be a camera owner's nightmare.

"You have to be careful with the salty sea spray that can condense on your camera and lens," says Santa Fe-based shooter Michael Clark, who caught this cresting wave at Waimea Bay on Oahu, Hawaii. But Clark shot this at a safe distance from the spray, taking advantage of the shoreline's angular curve. "The waves at Waimea break pretty far from the actual beach, but because of the way the cove bends you can get on axis with the waves and see into the barrels. Autofocus isn't super-critical because the waves break in a relatively consistent place." If you're shooting waves as they come toward you on shore, though, you'll need to use AF because of their speed and unpredictability.

Indeed, the challenge is the sea's constant movement. "You need to shoot hundreds of images of every wave so that you can capture the split-second perfect moment," Clark says. "Here, I shot more than 2,000 images in a couple of hours. This one was when the first rays of light were hitting the wave at sunrise, which gives it the wild array of colors."

Like a surfer, anticipate where waves are going to break and position yourself to catch them. "Put your camera on a ball head to swivel and react quickly," Clark advises. "The reality is waves happen so fast that if you aren't already shooting by the time you see it, it's over and gone."

NICE VIEW

Chaize shot with a Walker Titan XL 4x5 field camera and Schneider 65mm f/8 wide-angle lens, exposing for 1/60 sec at f/22 on Kodak Portra 160 color negative film.



Get Up High

Your vantage point can frame a composition—as evidenced by this shot by French photographer Christian Chaize, who perched his camera and tripod on a rock outcropping far above a secluded cove in southern Portugal. “Don’t fall down!” Chaize jokingly advises. “And try not to give the impression that you are photographing people—someone might get upset.”

In fact, Chaize relies on the distance from his subjects to record candid social studies. This image is part of a long-term series, *Praia Piquinia*, in which he uses this same vantage point to document changing tides, weather patterns, color variations, and human interactions. “With perseverance and a commitment to this place, I have been rewarded. There is always something new,” he says.

In deciding when to shoot, Chaize watches for drama—“a ball suspended in the air, a wave, an exchange between a couple”—but he notes that surprises often appear when he develops his film. “That can impart the image with a meaning that I didn’t anticipate, or couldn’t have made up if I’d tried.” In addition to a wide-angle scope, he uses the vertical format “to put my subject matter in the form of a portrait—an ongoing record of this corner of nature.”

Chaize’s bird’s-eye view also lends this photograph an effective array of high contrasts and crisp shadows, even in high-noon conditions. “My axis of shooting is northwest, which is a distinct advantage,” he says, “because at all hours, the light is beautiful.” He notes that the key is keeping the sunlight at an angle to the camera: “You need to be sure that the sun isn’t directly hitting the lens.”



WARM GLOW

Levacy captured this portrait with a Nikon D3 and 24–70mm f/2.8G ED AF-S Nikkor lens, fully extended. Exposure was 1/500 sec at f/2.8, ISO 1000.

Find the Golden Light

“The sun can be harsh on the beach,” says Andrew Levacy, a wedding and portrait photographer based in Coronado, California, who specializes in waterfront imagery. “It can be crowded and it may be windy. However, we call the hour before sunset the golden hour because the light gets softer and people start to leave. And the wind tends to die down. That’s the best time to take pictures.” A case in point is Levacy’s portrait (above) of a woman named Katie walking footloose on the sand at sunset. “Get people moving to make a portrait appear more natural,” Levacy says. “I had her walk toward

me and look into that nice soft light.”

Levacy often brings off-camera flash (with umbrellas). “Let’s say you’re meeting an hour before sunset: The light is still fairly bright, so off-camera light can help to fill some shadows. And if you want to show the colors of the sunset, they’re going to create a silhouette, so off-camera light helps.”

From behind the camera, the light at dusk still provides “that nice pink-orange soft glow in the background,” Levacy says. “So you can naturally backlight your subjects, or maybe have the sun off to the side, and there won’t be shadows on their face but it has a pastel, soft-lit look.”



Home in with a Macro Lens

"Allow yourself to be in love with the subject, open to discovering the many aspects of it, be they old or new," says Massachusetts-based photographer Harold Feinstein, who created the macro seashell study above. "You've got to have a sense of awe."

Here Feinstein sought to convey "the obvious relationship of this shell to the greatest aspects of architecture," he says.

"So I got in as close as I possibly could. The relatively small aperture [f/11] allowed me the most depth of field in that range, and thus I was able to get as much detail as I did. I was drawn not only to the extraordinary natural shapes of the seashell but also to its range of colors, almost like a rainbow itself."

While this image appears carefully framed, Feinstein suggests an intuitive approach. "I work quickly so that [compositional] decisions are spontane-

SHELL GAMES
Feinstein captured this shell using an Olympus OM-1 SLR and 50mm f/3.5 Zuiko macro lens, exposing for 1/60 sec at f/11 on Kodachrome 64 film.

ous and often not considered beforehand," he says. "And I shoot a lot of exposures, so I have choices when editing."

During an illustrious photo career spanning more than half a century, the beach has been an oft-recurring location for Feinstein. "There's a lot more light available than in most places, which makes it easier to close down the lens—sometimes even to f/22—which provides you with the most depth of field," he says.



"It's great for close observation of these remarkable structures, born of the creatures who inhabit them. The phrase 'form follows function' certainly applies."



Savor the Sunrise

In stark contrast to action shots on the beach, sunrise images call for quiet, unhurried TLC. "Take your time, slow down," advises wilderness photographer Rodney Lough Jr., who photographed the above scene in Hawaii. "If you want the imagery and the lighting and everything to be perfect, you can't be thinking of where you want to be next; you have to be thinking about where you are."

Lough notes that at day-break, "not many people are usually up, and the day is still quiet and calm"—which allows for a tripod setup and long exposures (6.8 sec here) that capture nuanced lighting. "Expose for the highlights, because if you lose that data

you cannot get it back," he says. To accurately render the intense natural hues, he often shoots both sunrises and sunsets without filters. But in the case of his image here, "there is a fair bit of exposure difference between the darker elements in the foreground and the colorful sky," Lough says. "To compensate, I used a graduated two-stop neutral density filter to help balance the tones. I also carry a four-stop neutral density filter, but I mainly use that in shots with brighter sunlight."

Lough calls this picture "Harmony," partly because it was shot on a special morning. "My wife and I were celebrating our 24th wedding anniversary," he recalls. "Yes, I let her sleep in." 🌅

GET OUT EARLY
Lough shot with an Arca Swiss 8x10 F-line view camera and 150mm f/5.6 Apo-Sironar-S Rodenstock lens; 6.8 sec at f/5.6, on Fujichrome Astia 100F Professional film through a 2-stop ND filter.

RODNEY LOUGH JR.

5 Pro tips for keeping your gear clean

1 Use a shield. "To deal with sea spray I have an Aquat-ech Rain Cover that I put over my

camera and lenses until I shoot," says Michael Clark. "And I have dry towels to wipe off mist."

2 Don't put it down. "I keep my gear around my neck or in my backpack, which has protective zippers," says Andrew Levacy. "And my cameras all have seals."

3 Think ahead. "I attach my lenses before going out," says Rodney Lough Jr. "I keep the lens cap on until the last moment."

4 Invest in a housing. "If you are shooting in the water, that is a whole other set of issues!" says Clark. "You may need your cam-

era's specialized water housing, or surf housing."

5 Try an action cam. "For motion photos, I'd skip the housing and get a waterproof GoPro camera," says Levacy. "They do a great job—but it depends on what kind of shot you want."

Better Together.....

You have a camera. You have a smartphone. What happens when you pair them up? Magic. Here are 13 tips, tricks, and hacks to help you use these tools in tandem.

By Debbie Grossman

1 Capture sound.

If you've ever tried to use your camera's built-in mic as the primary recording device when shooting video, you've probably realized its sound quality isn't the highest. The microphone in

your smartphone, built for catching conversation, is better. Set it up outside of the scene you're shooting and use a sound recording app to record. Or bring it right up to the face of a subject to record speech for an off-camera voice-over. For even better sound, you can get an external mic (such as a shotgun or lav) that hooks into your phone. Then sync the sound with your video in post.

2 Find the light.

If you're longing to shoot star trails on a moonless night, or capture a favorite forest spot at sunrise, use an app such as the Photographer's

A Wi-Fi connected camera, such as the Olympus OM-D E-M5 below, usually has an app that will let you shoot remotely.

Ephemeris to find the days and times when the light will be right for a given location. Then add it to your calendar and set it to remind you with enough time to pack your gear and head out.

3 Track your pics.

Want a fast way to keep track of the places your favorite shots were taken? Turn on your phone's GPS, then shoot a frame using your smartphone to match the one you captured with your camera. And if you really want to track every location on a shoot and add it to your metadata, install a GPS tracking app on your smartphone. Then export the GPX file it makes and use Adobe Photoshop Lightroom to sync.

4 Meter.

A light meter app isn't a replacement for a dedicated incident meter, but it's handy for shooting with a vintage camera that lacks one. Meter apps are also fun to play with (and better for you than Candy Crush)—guess the exposure of the space you're in then check the app to see if you're right.

5 Stay in touch.

On a shoot with an assistant, particularly during an event such as a wed-



PHILIP RYAN / (LOD IMAGE)

ding, simply use text messaging to keep up with your helper. Or use a walkie-talkie app to communicate in short bursts instantaneously.

6 Sneak snaps.

Most Wi-Fi-capable cameras have dedicated apps. And most of those apps allow you to use your phone as a remote viewer and trigger. Try this for street photography: Hang your camera around your neck and you'll just look like you're messing with your phone, not shooting! The remote trigger is also great for a wedding where you're not allowed near the ceremony, or if you want to capture sports from above. To use your phone this way for a longer period, get a case with a built-in battery or plug it in; remote viewing uses a lot of juice.

7 Keep a shot list.

Use any to-do list app to track the pictures you can't afford to miss. You can share your list with assistants and check the shots off as you go. And you'll always have the list prepped and ready if you shoot the same kinds of situations regularly.

8 Get remote video.

Many dedicated apps allow you to remotely record video, though their controls are often more limited than those for shooting stills. If you need full control for video shooting, consider an action cam. The GoPro, for example, has an app with plenty of control for video.

9 Backup to go.

Send pictures to your smartphone to make sure you don't lose them. Most of the camera-

specific apps don't let you move RAW files, but you can make sure to keep high-resolution JPEGs just in case your card corrupts. Hook up your phone's camera roll with a cloud-based backup service and you'll be sure not to lose your favorites. If you do need RAW backup, or if your camera doesn't have Wi-Fi, try Eyefi's Mobi Pro card paired with its mobile app for previewing and backup.

10 Calculate long exposures.

If you're shooting at night or trying to smooth out daytime motion with the help of a few neutral-density filters, you'll need to set your camera to bulb and control the length of the exposure yourself. Download an exposure calculator app to figure out how long your exposure should be. Then use your smartphone's timer to hold the shutter open for the correct length of time.

11 Photo edit on the road.

When you're traveling, there's nothing like using your smartphone to quickly choose your best shots. If you use Lightroom CC, load your smartphone with Lightroom for mobile and use stars and quick collections to edit a shoot. Or sync your images with Mylio or other cloud services. Then do extensive retouching when you're back at your desk.

12 Scout locations.

See a great spot to shoot but don't have your camera? Or find a great spot, but you're there when the light isn't so great? Make sure your phone's GPS is



on and use it to snap a photo. Create a Scouting folder on your phone and save the image there. You can keep folders for sunrise locations, portrait backgrounds, or any other subject you need. Then when you're ready to shoot, check your folder for ideas.

13 Share a color-accurate portfolio.

Keep folders of your favorite images, sorted by subject or theme, in your phone. That way when you need to share examples of your work or just show off, you'll have albums at the ready. Need it color managed? Show your stuff in an app such as X-Rite's ColorTRUE, which allows you to use one of its devices to calibrate your smartphone screen and showcase an image gallery.

This Samsung Galaxy S6 is set up to shoot with the Olympus camera. But even if your smartphone and camera don't link up, you can use your smartphone apps to make better pictures.

DARKSECRETS

Mysterious, menacing, romantic: Night is full of photographic possibility. Lynn Saville, a pro who specializes in capturing the world after sunset, shares her experience and insights.

Photos by Lynn Saville; text by Peter Kolonia

CITY OF LIGHT

This view of Paris's Louvre and Tuileries Gardens is richly atmospheric. Saville used a Leica M6 and Leica 28mm lens, exposing for about 1 sec at f/11 on Ilford HP5+ film.

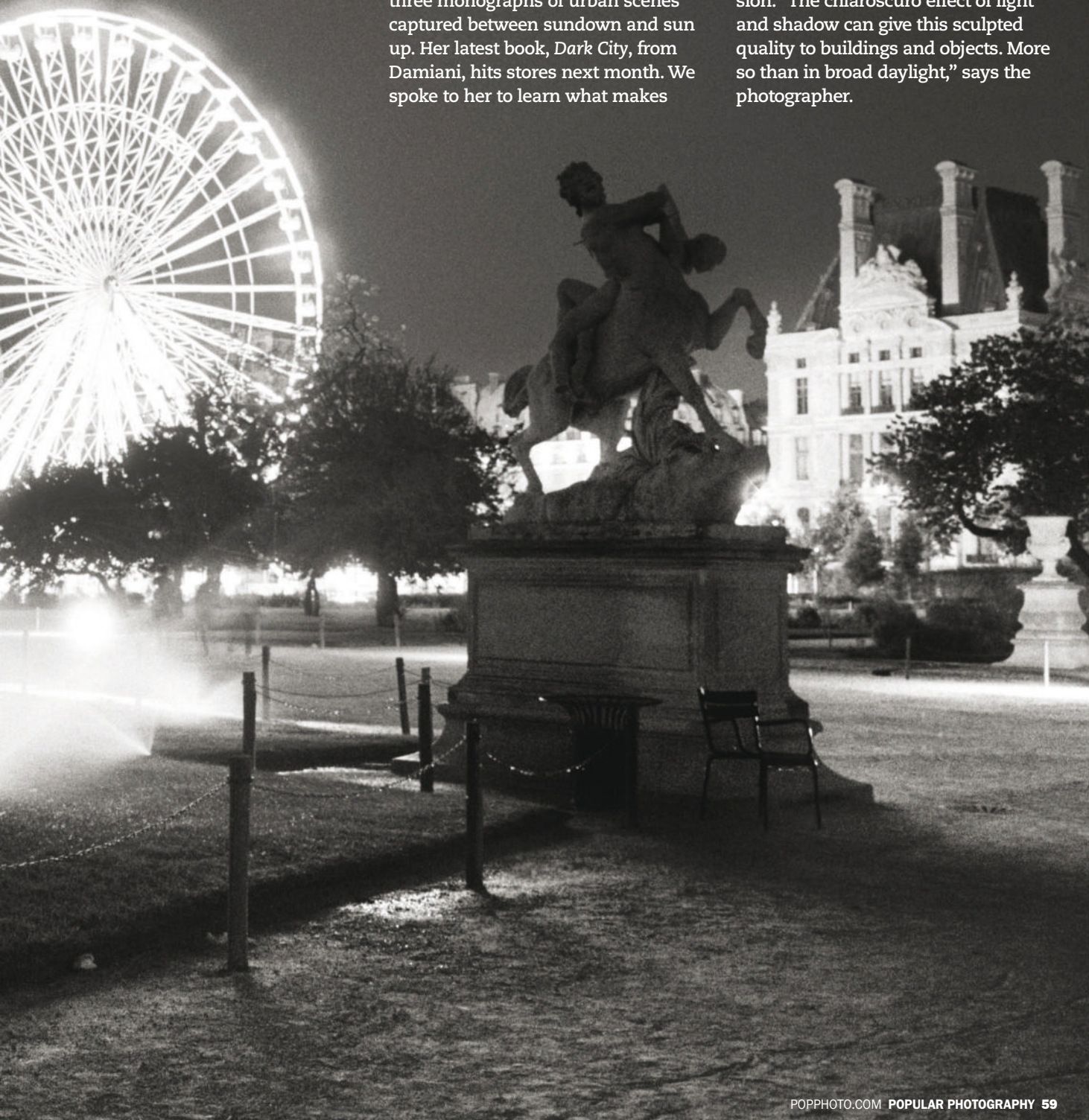
"I LOVE THE WAY cities look at night," says photographer Lynn Saville. "I can wander and see the city with less interruption. Pedestrians don't get in my way, and I don't get in theirs. I can work slowly and look closely."

A fine-art photographer who teaches workshops on night photography, Saville has published three monographs of urban scenes captured between sundown and sun up. Her latest book, *Dark City*, from Damiani, hits stores next month. We spoke to her to learn what makes

night shooting different, and what you need to know before you head out.

Night's Light

After dark, architecture's character and shape is more apparent thanks to the almost spot-lit nature of street lighting. The light falls off more quickly and thus emphasizes dimension. "The chiaroscuro effect of light and shadow can give this sculpted quality to buildings and objects. More so than in broad daylight," says the photographer.





For Saville, night photography comes in two varieties. “You can shoot in the dead of night or during the half-light of dusk and dawn,” she says. “Shooting at dusk is exhilarating because you sense how the lighting is quickly fading, and you feel compelled to locate and capture your subjects in good light. It can become like a race.”

Another advantage to shooting during twilight is the shadow detail it offers. “A little ambient light can reveal texture and detail in dark areas,” says Saville. With-

out it, nighttime scenes are often very contrasty, with bright, blown out highlights against shadowed areas that lack detail.

Night scenes can take on very different moods depending on whether you capture them in black-and-white or color. When shooting late at night, Saville prefers b&w. “When natural light leaves the skies, scenes can often become monochromatic. The Paris and Fifth Avenue shots in this story illustrate that,” she says. On the other hand, if you’re

MAGICAL TWILIGHT
Saville shot Brooklyn’s Saint Ann’s Warehouse with a Nikon D700 and 28mm f/2.8 Nikkor, exposing for 4 sec at f/10, ISO 400.

shooting at dawn or dusk, and there’s light in the sky, shooting in color can reveal interesting temperature contrasts between artificially lit structures and naturally lit skies. “Putting a little color up there adds interest,” says Saville.

Gathering the Gear

What’s the best camera for shooting after dark? When she plans to make large, gallery-sized prints, Saville uses a Mamiya 645 body and Phase One IQ 180 digital back for higher resolution images. Otherwise



one of her favorite cameras is the Nikon D800E. “It has the uncanny ability to work at high ISOs with a minimum of noise while maintaining the look of city light. It’s really kind of stunning. I try to keep to ISO 200 or 400, but if I have to, I’ll go higher with the D800E. I’ve gone up to ISO 2500, even ISO 5000.”

Also, a good tripod is essential, says Saville. “Look for a tripod that you’re willing to spend a lot of time with and become good friends. Go to a reputable dealer

HOPPER-ESQUE
A Nikon D800E captured the Maine bookshop (top); exposure 1/15 sec at f/2.8, ISO 1000. For the Maine granary (bottom), it was a Nikon F and about 1 sec at f/8 on Kodachrome 64.

who will let you return a tripod, no questions asked,” she says. Tripod heads are just as important; you need a good fit. She prefers ballheads for the freedom of movement, but realizes that many photographers prefer pan-and-tilt heads for a more methodical style. Either way, you don’t necessarily have to buy a head from the same company that made your tripod. Once you’ve got your camera support, become intimately familiar with it in daylight before taking it out at night.

You will also need a flashlight or camping headlamp. It can be helpful while you’re setting up in the dark, and give you the ability to see camera and lens settings. You can even use it to brighten up dark areas of a scene. “Don’t forget to bring extra batteries,” Saville advises. If you have a cell phone with a camera, use it to make instant test images. “Walk around taking a quick set of cell phone pictures. Change camera angle and camera placement, composing the scene in a number of quick-and-

DARK CITY
Softness can be effective in after dark photography. The blur in Saville's view of New York's Fifth Avenue lends an edgy quality. Made with a Leica M4 and exposed for about 1/60th sec at f/4 on Ilford XP-1 film.





dirty test shots. Look them over to quickly assess what is working. You can also zoom into a cell phone photo to see if a longer focal length is called for. Flip between horizontals and verticals, too," she suggests.

Shots in the Dark

The greatest challenges of photographing at night? Metering and focusing. Light meters are designed to reproduce scenes in medium gray tones, which isn't what you want when shooting something inherently dark. Even more confusing to a meter: bright lights. Saville advises to set exposure yourself. "I recommend

COLOR EYES
Because night scenes are often monochromatic by nature, a spot of color can make a statement. Saville used a Fujifilm 645W body and exposed for 1/2 sec at f/11, ISO 400.

shooting in manual exposure mode. Find an area or object within the scene that you want rendered as a medium gray. Spot meter that and then use those exposure settings."

As for focusing, manual wins as well. "Autofocus mechanisms often look for contrast," she says. "At night, it's hard for cameras to find focus. Hard for people, too!" So get out that flashlight, and use it to light up an area so that you can focus on it. You can also use it to light up your lens's subject scale, allowing you to scale focus. Saville says, "If you're shooting with a [parfocal] zoom, first zoom in to check focus, then zoom back

out to make your picture."

On the subject of focus, after-dark shooting can be very forgiving of blur. For example, Saville finds herself attracted to energy and movement. "When I see it, I bracket my shutter speeds, starting down at about 1/30 sec. I then work my way up to faster and faster shutter speeds. It gives me the option later of choosing a specific degree of blur that I want for a scene, if any." Blur can emphasize movement, but it can also impart a romantic, dreamy, or (as in the shot of New York's Fifth Avenue at left), an edgy feel.

Another important consideration for night photography is the weather. "Rain can be really beautiful at night," says Saville. "Low-hanging storm clouds can also add drama." The way wet streets glisten and gleam at night can add spark to a scene. "Just be careful to wrap your camera in plastic and have an umbrella along to keep yourself and your camera dry," she adds.

If Saville's photos and advice have inspired you to try photography after dark in the city, remember to shoot safely. "I always carry my tripod in a bag. Often people think I'm carrying a yoga matt or a musical instrument. I think it's much safer if thieves don't suspect that you're carrying a camera. I also try to conceal my camera. I carry it on a neck strap underneath my sweater or jacket," says Saville. Don't go out alone. Take someone with you, at least on your first urban outings.

You're not limited to urban scenes for night shooting. "You can work in your garden, for example. Bring your lights out with you. Or shoot with the light of outdoor lanterns," Saville recommends. Amusement parks, highway overpasses, bridges, farm structures, and lamp-lit rural streets all offer after-dark possibilities. As this dedicated night photographer puts it: "Light penetrating darkness has a visual appeal no matter where you find it."

POPULAR PHOTOGRAPHY

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LAB

AUTHORITATIVE TESTS, REVIEWS, AND

CANON EF 50MM F/1.8 STM; SIGMA 150-600MM F/5-6.3 DG OS HSM/C



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OUR CRITICAL GUIDE TO 50MM LENSES



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DSLR TEST

REFINING THE REBEL

In a crowded field, Canon ups its game

MUCH HAS CHANGED in the camera world since Canon first hired tennis star Andre

Agassi to introduce its Rebel line with TV commercials proclaiming, "Image is everything." And while for 25 years the Rebel has remained a staple consumer-

oriented DSLR for Canon, now, as the competition from interchangeable-lens compact cameras intensifies, DSLR makers have started to add features once found only in

CANON EOS REBEL T6s

24.2MP CMOS APS-C sensor
1080p 30-fps HD video
Articulating 3-inch 1,040,000-dot touchscreen
Built-in Wi-Fi and NFC
\$849, street, body only

BRIAN KLUTCH (MAIN ART)



higher-end cameras to their entry- and mid-level DSLRs. Canon's new top Rebel, the EOS Rebel T6s (\$849, body only; \$1,149 with EF-S 18–135mm f/3.5–5.6 IS STM lens), is a case in point.

The most obvious addition is the LCD panel on the top of the camera. Besides displaying the number of shots remaining on the memory card, ISO, shutter speed, aperture, and battery life remaining, the screen also conveniently shows whether Wi-Fi is active. One less obvious improvement: The wheel surrounding the quick control dial on the back now lets you set exposure compensation as you might with the large rear command wheel on fancier models such as the EOS 5D Mark III. The T6s also marks a jump to 24.2MP from 18MP on the last top Rebel, the T5i, plus a 19-point autofocus system (up from 9 points), and a new 7560-pixel metering sensor (up from a 63-zone meter).

Eager to see what these changes mean on a practical level and how the camera stands up to its competitors in the step-up DSLR category (a notch above entry-level), we ran the T6s through our extensive lab and field tests.

In the Test Lab

The increase in pixel count to 24.2MP on its APS-C-format sensor puts the Rebel T6s in line with the 24.2MP Nikon D5500 (\$747, body only), Sony's 24.3MP Alpha 77 Mark II (\$898, body only), and slightly ahead of Pentax's 20.1MP K-S2 (\$627,

CANON EOS REBEL T6s

WHAT'S HOT

Excellent image-quality; Wi-Fi

WHAT'S NOT

Burst speed could be faster

WHO IT'S FOR

Shooters who want the best entry-level camera body in the Canon system

PHILIP RYAN (LCD IMAGE)

A wooden park bench with a dark metal frame sits on a lush green lawn under a clear blue sky with a few wispy clouds. A clear plastic bottle lies on the grass in front of the bench.

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to be
a bench.
Recycle me.”*



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BEAUTIFUL

body only) in sheer pixel terms. In our lab testing, the T6s earned an overall image quality rating of Excellent from ISO 100 through ISO 800. All the other cameras mentioned here earned Excellent overall ratings too, but the Nikon held it all the way up to ISO 6400, while the Sony, like the Canon, held the rating to ISO 800 and the Pentax to ISO 400.

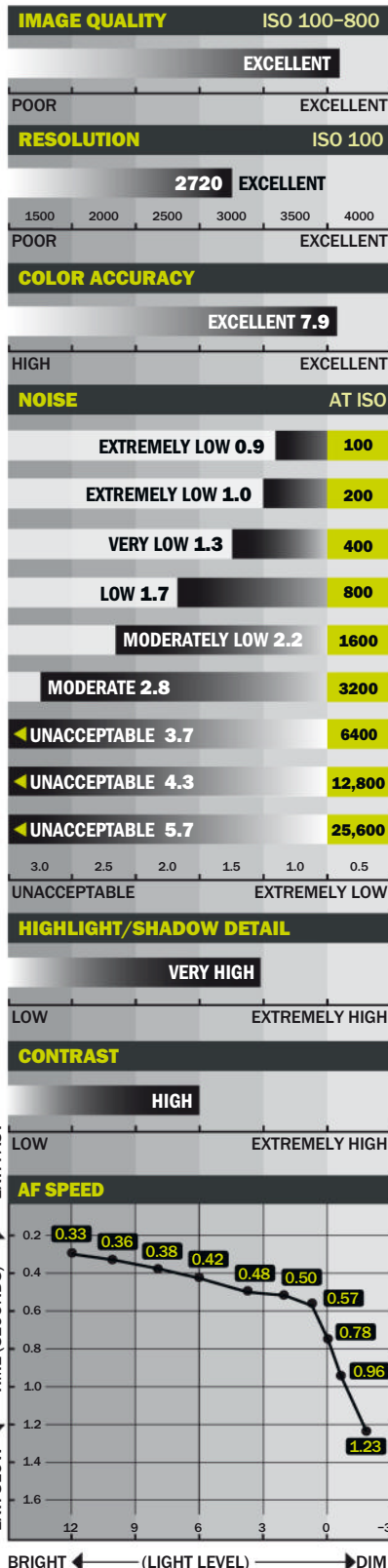
Resolution plays a big part in this overall assessment. And in our resolution test, the T6s brought in 2720 lines per picture height at ISO 100; it dropped to 2640 at ISO 800, 2340 at ISO 6400, and 1975 at the camera's top sensitivity of ISO 25,600. As usual, we obtained these results from RAW files that we converted to 16-bit TIFFs using the company's bundled RAW conversion software with noise reduction at default settings.

Again, the Nikon beat out the Canon. The difference was minimal at ISO 100, where the D5500 yielded 2760 lines, but grew at higher ISOs. At ISO 6400 the Nikon pulled in 2600 lines, and at the two cameras' top sensitivity of ISO 25,600 the Nikon captured 2120 lines. Both the Pentax and Sony trailed the Canon in this test.

In noise control the D5500 also beat the T6s. While the Canon kept noise to a Low or better rating up to ISO 800, the Nikon did so up to ISO 6400. In fact, the D5500 showed less image noise than this Canon at every sensitivity level. While the Pentax couldn't keep pace with either of these cameras, the Sony showed Low or better noise up to ISO 3200.

Autofocus proved a strong point for the T6s. It managed to focus and capture an image faster than both the Nikon and the Pentax at every light level in our test. We were impressed that the T6s focused and captured in a half-second at the dusky illumination of EV 2. When compared with Sony's

TEST RESULTS



SPECIFICATIONS

IMAGING: 24.2MP effective, APS-C-sized CMOS sensor captures images at 6000x4000 pixels with 14 bits/color in RAW mode.

STORAGE: SD, SDHC, SDXC. Stores JPEG, CR2 RAW, or RAW + JPEG files.

VIDEO: Records up to 1920x1080p 30fps in MPEG-4 H.264 format; built-in stereo microphone; stereo microphone input; approx. 29 min. 59 sec. maximum clip size at highest quality.

BURST RATE: Full-sized JPEGs (Fine), up to card capacity shots at 5 fps; RAW (14-bit), up to 8 shots at 5 fps using a UHS-I compatible SD card.

AF SYSTEM: TTL phase-detection with 19 illuminated focus points (all cross-type points); single-shot, continuous, predictive focus tracking; tested sensitivity down to EV -2 (at ISO 100, f/1.4).

LIVE VIEW: Hybrid contrast/phase-detection.

SHUTTER SPEEDS: 1/4000 to 30 sec, plus B (1/2- or 1/3-EV increments); shutter life not rated; flash sync to 1/200 sec.

METERING: 7560-pixel RGB+IR TTL metering; evaluative, center-weighted average, partial (approx. 6% of viewfinder at center), and spot (approx. 3.5% of finder at center); range, 1 to 20 EV (at ISO 100).

ISO RANGE: ISO 100-12,800 (in 1-EV steps), expandable to ISO 100-25,600.

VIEWFINDER: Fixed eye-level pentamirror.

LCD: Articulated 3.0-in. TFT touchscreen with 1.04 million-dot resolution, 7-step brightness adjustment.

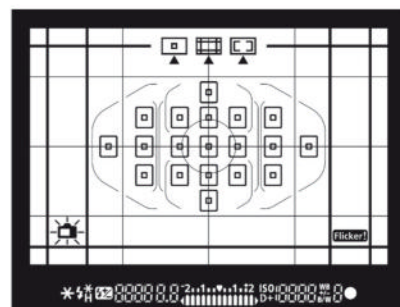
OUTPUT: Hi-Speed USB 2.0 and mini-HDMI video.

BATTERY: Rechargeable LP-E17 Li-ion; CIPA rating, 440 shots.

SIZE/WEIGHT: 5.2x4.0x3.1 inches, 1.3 lbs with a card and battery.

STREET PRICE: \$849, body only; \$1,149 with EF-S 18-135mm f/3.5-5.6 IS STM lens.

INFO: www.canoneos.com



VIEWFINDER TEST: Accuracy 95% (Excellent); magnification 0.82X (Very Good)

A77II, this Canon couldn't keep up in the brighter parts of our test, but after a matching result at EV 4, the Canon proved faster all the way down to our lower cutoff of EV -2, the dimmest level that we test.

In the Field

The T6s has a nicely designed body with a comfortable grip and makes good use of real estate with dedicated buttons for the most commonly changed settings. A dashboard-style quick menu lets you access any frequently changed settings that don't have dedicated buttons.

The LCD panel on top is a welcome addition, providing easy access to the most important information when the camera is turned on. We would have loved to see an indicator of remaining battery power or memory card space even when the T6s is powered off, though some photographers might see that as a waste of energy.

The 3-inch, 1.04-million dot LCD swings out to the side and swivels up and down, making awkward-angle shooting, not to mention selfies, much easier. A dedicated button makes it simple to enter live view mode, and the power switch has a third position for video mode.

The camera's evaluative metering did a very good job of handling a wide variety of scenes, even in difficult situations with mottled natural light. In general, it tended more to underexpose than overexpose, which is always better in digital photography.

Burst shooting with the T6s performed very well, yet at 5 frames per second the camera matches the D5500's speed but falls behind the K-S2's 5.5 fps and the A77II's 8 fps (thanks

to Sony's transmissive mirror, which doesn't have to swing out of the way during bursts). The Canon could also use a larger buffer if it wants to keep up with its rivals. The T6s allows up to 8 RAW shots before filling when using a UHS-I card. The K-S2 will let you shoot 9 RAW images before its buffer fills, while the D5500 permits up to 10 shots and the Sony can pull in 28 RAW frames before filling. JPEGs are another story, though. The Pentax starts slowing after 30, while the Nikon goes to 100, and the Sony 75. The T6s, on the other hand, processes away like crazy to let you shoot to your card's capacity with a UHS-I SD card.

Video we captured with the T6s looked great, with very little jello effect, lots of detail, and pleasing colors. When using one of Canon's STM lenses, autofocus was swift but not overly so, which is preferable when capturing video. It also proved very quiet.

We were happy that Canon decided to include Wi-Fi and NFC in the T6s. The NFC can be used to simplify the process of pairing the camera with an Android smartphone, and it can also let you connect it to Canon's soon-to-be-released Image Station. This stores your photos and can connect to your home network to share images with other Image Stations elsewhere or to display your photos on your TV.

We easily paired the T6s with an iPad and used Canon's Camera Connect app to transfer images to the tablet for quick sharing. Plus, we could control the camera through the tablet to shoot remotely. The app doesn't allow the level of control of menu items that the Olympus and Panasonic apps

For a full explanation of how we assess cameras in the Popular Photo Test Lab, visit [Pop Photo.com/reviews](http://PopPhoto.com/reviews).

do, but it proved a nice way to control the basic camera settings and trigger capture.

We had a harder time with the Android version of Canon's app, but ultimately it worked. At first, while the camera and phone were able to connect properly, the app didn't recognize that the connection was there. If this happens to you, disconnect the camera and phone, make sure NFC is enabled on your phone, launch the app, and then use NFC to establish the connection. This was the most reliable way to make the app work with our Samsung Galaxy S3 smartphone.

The Bottom Line

While there are areas in which the Canon T6s doesn't quite match up to its competition, it did manage to take second or first place when compared to the DSLRs mentioned here in all the main areas of our testing. So, while it might not have as intensive a weather-sealing as the Pentax, it still feels like a rugged enough camera for the average entry-level shooter. Again, while it doesn't focus as fast as the Sony in bright light, it does a very good job there and remains the overall AF champ of this bunch in lower light.

If there's one DSLR that really gives the T6s a run for its money, it's the D5500. This Nikon provides slightly better image quality across the two cameras' shared sensitivity range, tracks the Canon closely in other features, and has an equally impressive cadre of lenses and accessories available.

Canon definitely deserves a lot of credit for making sure that the Rebel remains a top choice for novice and budget-minded DSLR shooters long after the tennis world has moved on from Andre Agassi. —Philip Ryan

CINE READY

CANON RETOOLS ITS CLASSIC 50MM F/1.8 FOR BETTER VIDEO

CONTINUING TO upgrade select lenses from its catalog with stepping motors, Canon has added STM focusing capability to its EF 50mm f/1.8 prime. The new motor mates up with the Movie Servo AF mode in newer DSLRs for quicker, smoother, and quieter autofocus for video and live view. The lens also boasts an upgraded lens mount, now metal instead of plastic and a new Super Spectra coating for better control of ghosting and flaring.

Compact and light, with an 80mm equivalent focal length on Canon's APS-C bodies, the lens is about 1/8-inch shorter than the previous 50mm f/1.8. In fact, it's Canon's most compact 50mm ever, and also smaller than the Nikon 50mm f/1.8G (tested in our September 2011 issue), Pentax DA 50mm f/1.8 (February 2013), and Sony 50mm f/1.8 DT (October 2009). It also produces attractive bokeh with superb subject sharpness thanks to a new seven-blade circular aperture. Its predecessor had a five blade diaphragm, non-circular in shape. As a result, defocused specular highlights were not round, but pentagon-shaped.

The manual focus ring on this new lens has been enlarged and slightly repositioned. Previously, it

was far forward at the outer rim of the lens and a meager 0.18 inches wide. Now it has almost doubled in size to 0.33 inches and moved closer to the camera body, making it easier to reach while holding the camera. This, plus the STM AF motor, should please both video and manual-focus fans. Canon has also given the lens a cosmetic upgrade with simpler markings and an attractive matte black finish.

In the field, the new 50mm provided consistently quiet and fast autofocus, a bright viewfinder image, and a smooth manual focus action.

Despite its many improvements, the lens sells for a price that belies its excellent imaging capabilities: \$125, street.

On our lens bench, Canon's new 50mm produced Excellent-range SQF scores, slightly better than the earlier version, especially at maximum aperture, reaching an A rating, up from B+. Distortion tests using DxO Analyzer 5.3 showed Slight barrel distortion (0.20%), very much improved from the older lens, which produced Very



SPECIFICATIONS

50MM (51.39mm tested), f/1.8 (f/1.89 tested), 6 elements in 5 groups. Focus ring turns 180 degrees.

DIAGONAL VIEW ANGLE: 46 degrees

WEIGHT: 0.35 lb **FILTER SIZE:** 49mm

MOUNTS: Canon AF

STREET PRICE: \$125

WEBSITE: canonusa.com

TEST RESULTS

DISTORTION: 0.20% (Slight) barrel

LIGHT FALLOFF: Gone by f/2.8

CLOSE-FOCUSING

DISTANCE: 13.37 inches

MAXIMUM MAGNIFICATION

RATIO: 1:4.32

AMATEUR PRO



To see how this new 50mm f/1.8 stacks up against other 50mm lenses from Canon and other manufacturers, check out our Lens Guide on page 72.

Visible 1.1% barreling. Pentax showed the class-leading distortion control with Imperceptible-range barreling of 0.06%.

This new lens showed no edge falloff from f/2.8 compared with f/4 of the previous version. The close focusing distance for the new and previous versions, plus the Sony, were all similar. The new Canon, however, focused closer than either the Nikon (by 3.13 inches) or the Pentax (by 3.63 inches). Subject magnification at 1:4.32 was also improved over the earlier lens's weaker 1:6.3.

This timeless entry-level prime is a nice fit for portrait, active, and low-light subjects. While the price of most 50mm f/1.8 lenses is low, the new Canon costs about \$50 less than the comparable Nikon. Between test results that showed improvement by almost every optical metric and Canon's numerous small but significant handling and cosmetic upgrades, this lens is undeniably a winner and a welcome addition to the Canon lens catalog. —Julia Silber



SUBJECTIVE QUALITY FACTOR

Our standard lens test, SQF rates sharpness by print size

Size	5x7	8x10	11x14	16x20	20x24
1.5	85.5	83.9	83.4	85.4	82.0
2.0	86.5	85.5	83.4	88.4	82.1
2.8	86.5	86.0	83.6	88.8	82.8
4.0	87.3	86.5	84.6	90.7	85.9
5.6	87.9	87.2	85.6	92.7	89.1
8.0	88.0	87.4	85.9	93.2	90.0
11.0	92.7	88.9	88.3	92.1	88.3
16.0	85.3	85.1	83.7	89.4	84.0
22.0	83.5	83.5	81.4	84.7	76.3

KEY A+ A B+ B C+ C D F

CANON EF 50MM F/1.8 STM

WHAT'S HOT

Stepping motor for better video focusing

WHAT'S NOT

No depth-of-field scale

WHO IT'S FOR

Shooters wanting the look of a normal lens with better video functionality

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THE LENS GUIDE

Tested 50mm lenses for DSLRs and rangefinders

NORMAL VISION

Here is a picture of the state of the so-called normal focal length. You'll find all the current 50mm optics we've assessed in the Popular Photography Test Lab and the field. Star ratings are based on a combo of optical performance and build quality.

CANON EF 50MM F/1.8 STM

FULL-FRAME

★★★★

AMATEUR PRO

\$125, street, with hood
A vast improvement from the previous version both in optical performance (especially sharpness and light falloff) and in build (with a metal, not plastic, mount). New coatings fight ghosting and flare; the stepping motor benefits video.

STANDOUT SPEC Light

STEAL



NEW MODEL

and compact, it leads the 50mm pack in subject magnification.

MOUNT Canon AF
WEIGHT 0.35 lb
LENGTH 1.50 in.
FILTER SIZE 49mm
CLOSE FOCUS 13.37 in.
MAXIMUM MAGNIFICATION 1:4.32

CANON EF 50MM F/1.4 USM

FULL-FRAME

★★★★

AMATEUR PRO

\$329, street
The standard 50mm for Canon performs solidly, providing excellent sharpness and control of distortion (rated Slight at 0.24%) and edge falloff (gone by f/2.8). We wish it had a better depth-of-field scale (it covers f/22 only), a useful feature that some rivals do well.



GETTING OLD

STANDOUT SPEC
It has an infrared index mark—cool!
MOUNT Canon AF
WEIGHT 0.62 lb
LENGTH 1.96 in.
FILTER SIZE 58mm
CLOSE FOCUS 17.75 in.
MAXIMUM MAGNIFICATION 1:6.52

CANON EF 50MM F/1.2L USM

FULL-FRAME

★★★★

AMATEUR PRO

\$1,449, street, with hood and soft case
Fast and sharp, but a little slow to autofocus since the entire optical assembly (8 elements in 6 groups) has to move together inside the stationary housing. It controls distortion and vignetting nicely; light falloff is gone by f/2.8.

PRICEY



GETTING OLD

STANDOUT SPEC Brightest aperture you'll find in a Canon mount
MOUNT Canon AF
WEIGHT 1.34 lb
LENGTH 2.58 in.
FILTER SIZE 72mm
CLOSE FOCUS 16.87 in.
MAXIMUM MAGNIFICATION 1:6.00

LEICA SUMMILUX-M 50MM F/1.4 ASPH

FULL-FRAME

★★★★

AMATEUR PRO

\$3,516, street, with soft case and built-in hood
When it came out a decade ago, this was Leica's first major redesign of its 50mm f/1.4 since 1962! Solid, robust, and well marked, with a finger-contoured focus lever and aperture ring. We measured Visible (0.32%) pincushion distortion.

PRICEY



GETTING OLD

STANDOUT SPEC
Very sharp, especially at f/5.6 to f/16
MOUNT Leica-M
WEIGHT 0.78 lb
LENGTH 2.06 in.
FILTER SIZE E46 screw-in
CLOSE FOCUS 27.5 in.
MAXIMUM MAGNIFICATION 1:11.3

LEICA NOCTILUX-M 50MM F/0.95 ASPH

FULL-FRAME

★★★★★

AMATEUR PRO

\$9,676, street, with case and built-in hood
This extraordinary lens, with an extraordinary price to match, provides unequalled low-light ability and shallow focus, thanks to its f/0.95 aperture. Sharpness and contrast are the best tested; distortion and vignetting control are likewise optimum.

PRICEY



STANDOUT SPEC That huge aperture
MOUNT Leica-M
WEIGHT 1.71 lb
LENGTH 2.95 in.
FILTER SIZE E60 screw-in
CLOSE FOCUS 38 in.
MAXIMUM MAGNIFICATION 1:16.28

NIKON 50MM F/1.8G ED NIKKOR AF-S

FULL-FRAME

★★★★★

AMATEUR PRO

\$216, street, with hood and soft case
The bargain lens for Nikonians delivers excellent sharpness and good subject magnification with only a touch of barrel distortion (0.26%). Though compact, it's a little big for the f/1.8 class. And it focuses smoothly and precisely in either manual



or AF, a boon for video.
STANDOUT SPEC Fast, accurate, near-silent AF
MOUNT Nikon AF
WEIGHT 0.48 lb
LENGTH 2.08 in.
FILTER SIZE 58mm
CLOSE FOCUS 16.5 in.
MAXIMUM MAGNIFICATION 1:5.76

NIKON 50MM F/1.4G NIKKOR AF-S

FULL-FRAME

★★★★★

AMATEUR PRO

\$482, street, with hood and soft case
Solid, rugged build combine with excellent tested sharpness and contrast in this fast lens. It controls both distortion and light falloff quite well—though not much better than Nikon's much less expensive 50mm f/1.8G. But its metal lensmount should wear better.

STEAL



STANDOUT SPEC Terrific subject magnification for an f/1.4
MOUNT Nikon AF
WEIGHT 0.64 lb
LENGTH 2.15 in.
FILTER SIZE 58mm
CLOSE FOCUS 16.87 in.
MAXIMUM MAGNIFICATION 1:5.89

PENTAX-DA SMC 50MM F/1.8

APS-C

★★★★

AMATEUR PRO

\$107, street
Its wonderful showing in our optical tests (excellent sharpness and stellar distortion control) make up for the noisy autofocus and plastic lensmount. Small and light, this workaday prime has a focal length equivalent to 76mm in full-frame.
STANDOUT SPEC

STEAL



Imperceptible (0.06%) barrel distortion, outstanding even for APS-C optics
MOUNT Pentax AF
WEIGHT 0.31 lb
LENGTH 1.52 in.
FILTER SIZE 52mm
CLOSE FOCUS 17 in.
MAXIMUM MAGNIFICATION 1:5.87

PENTAX SMCP-FA 50MM F/1.4

FULL-FRAME

★★★★★

AMATEUR PRO

\$335, street
Although this full-framer dates back to the film era, that doesn't mean it won't shine on today's APS-C-format Pentax DSLRs. Small but well built, it provides excellent tested sharpness and contrast, as well as distortion and vignetting control.
STANDOUT SPEC Imper-



ceptible barrel distortion (0.08%); light falloff gone by f/2
MOUNT Pentax AF
WEIGHT 0.50 lb
LENGTH 1.44 in.
FILTER SIZE 49mm
CLOSE FOCUS 16.75 in.
MAXIMUM MAGNIFICATION 1:6.00

ROKINON 50MM F/1.4 AS IF UMC

FULL-FRAME

★ ★ ★
AMATEUR PRO

\$399, street, with hood and pouch Big and heavy, with a metal barrel that stays stationary during use, this lens is strictly a manual-focus affair. The depth-of-field scale spans the entire aperture range. It equals its rivals in sharpness, but we found Visible (0.32%) barrel distortion. **STANDOUT SPEC** Beautiful bokeh at f/1.4 when focusing close up



NEW MODEL
ful bokeh at f/1.4 when focusing close up
MOUNTS Canon EF, Nikon, Pentax, Sony A, Sony E
WEIGHT 1.18 lb
LENGTH 2.93 in.
FILTER SIZE 77mm
CLOSE FOCUS 17.25 in.
MAXIMUM MAGNIFICATION 1:5.79

SIGMA 50MM F/1.4 EX DG HSM

FULL-FRAME

★ ★ ★
AMATEUR PRO

\$399, street, with hood and soft case Hefty but worth its weight in performance, Sigma's older of two current lenses in this category still leads in our SQF tests, especially at larger image sizes. Slight (0.21%) barrel distortion offers an edge, too. **STANDOUT SPEC** Sharpness and contrast ahead of



GETTING OLD
all tested 50mm f/1.4s
MOUNTS Canon AF, Nikon AF, Pentax AF, Sigma AF, Sony A AF
WEIGHT 1.16 lb
LENGTH 2.68 in.
FILTER SIZE 77mm
CLOSE FOCUS 16.25 in.
MAXIMUM MAGNIFICATION 1:6.29

SIGMA 50MM F/1.4 DG HSM ART

FULL-FRAME

★ ★ ★
AMATEUR PRO

\$849, street, with hood and soft case The bulkiest 50mm, this entrant in Sigma's Art line provides plenty of sharpness and amazing distortion control. Edge performance is superb: light falloff gone by f/2. Smooth manual focus makes it nice for video. **STANDOUT SPEC** Imperceptible (0.02%)



NEW MODEL
pincushion distortion, beating every 50mm tested
MOUNTS Canon AF, Nikon AF, Sigma AF, Sony A AF
WEIGHT 1.83 lb.
LENGTH 4.10 in.
FILTER SIZE 77mm
CLOSE FOCUS 15.12 in.
MAXIMUM MAGNIFICATION 1:5.04

SONY 50MM F/1.8 DT SAM

APSC-C

★ ★ ★
AMATEUR PRO

\$168, street Made for Sony's APS-C-format Alpha DSLRs, this lightweight lens stands up to the competition in sharpness and contrast, especially at smaller apertures. Slight (0.13%) barrel distortion and vignetting that's gone by f/2.5 are nice pluses. **STANDOUT SPEC** The



barrel starts out fairly compact but extends during focusing
MOUNT Sony A AF
WEIGHT 0.38 lb
LENGTH 1.75–2.18 in.
FILTER SIZE 49mm
CLOSE FOCUS 13.25 in.
MAXIMUM MAGNIFICATION 1:4.56

SONY 50MM F/1.4

FULL-FRAME

★ ★ ★
AMATEUR PRO

\$448, street, with hood This A-mount Sony full-framer delivers Excellent-rated image sharpness and contrast, along with decent control of distortion (0.26% barrel) and vignetting (light falloff is gone by f/2.8). The barrel is also nicely marked, complete with a full depth-of-field scale.



GETTING OLD
STANDOUT SPEC Light weight—less than all the other f/1.4 lenses here
MOUNT Sony A AF
WEIGHT 0.49 lb
LENGTH 1.67 in.
FILTER SIZE 55mm
CLOSE FOCUS 17.12 in.
MAXIMUM MAGNIFICATION 1:6.16

ZEISS PLANAR T* 50MM F/1.4

FULL-FRAME

★ ★ ★
AMATEUR PRO

\$625, street, with hood Thanks in part to its lack of an AF motor, this manual-focus optic is relatively compact and light, given its metal construction. Our tests found excellent sharpness, as well as control of distortion (0.24% barrel) and vignetting (gone by f/2). **STANDOUT SPEC** Extremely smooth



manual focusing that's well suited to video
MOUNTS Canon, M42 screw, Nikon, Pentax K
WEIGHT 0.87 lb
LENGTH 1.85–2.16 in.
FILTER SIZE 58mm
CLOSE FOCUS 17.62 in.
MAXIMUM MAGNIFICATION 1:6.32





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MIKE BRINER ON B+W F-PRO POLARIZER

"I was in my Jeep tooling around Lead King Basin in Marble, Colorado when the image inspired me. The majestic peaks horned the valley, newly ablaze with fiery spring wildflowers. To capture the Reflex Blue sky, cotton puff clouds and countless reflective patches of melting snow dotting the panorama, I reached for my Canon camera. On front of the 24-105mm lens, my B+W F-Pro Polarizer ensured me the image was calendar perfect."



BRUISER

THE TELE ZOOM THAT HAS IT ALL

SIGMA CAUSED a stir last year when it added two new telephoto zooms to its lens line up. Why the fuss? Both were 150–600mm f/5–6.3 DG OS HSM lenses. Yes, two zooms with identical speeds and focal-length ranges—a highly unusual move for any lens manufacturer.

But Sigma had a logical reason for it: One was a professional-grade, higher-priced optic with greater durability for the Sports (S) line (\$1,999, street), and the other, a lower-priced and more compact design created for Sigma's Contemporary (C) class of lenses (\$1,089, street). Of the two Sigma 150–600mms, we tested the Contemporary version. Both are highly dust and moisture resistant, and layered with a new water- and oil-repellent coating on the front and back elements. There are also two new switches: a zoom lock (that can be set at any marked focal length—nice!) and a manual override (MO) option that lets you touch up focus manually after autofocus.

This is the first long tele zoom in the C line and has 20 elements in 14 groups, including one FLD and three SLD elements. On APS bodies, its zoom range is a whopping 240–960mm,

depending on the mount. Still this lens weighs only 4.37 pounds (with tripod collar) and 4.20 pounds (without)—even with Sigma's new protective cover (more on this below), that's nearly 2 ounces lighter than the Sports lens. Its length of 10.29 inches is almost identical to the comparable Tamron 150–600mm f/5–6.3 Di VC (tested in our May 2014 issue) and about an inch shorter than the Sports lens.

The zoom ring is large and relatively easy to turn, but the ribbed focusing ring is a bit too small for our tastes (0.17 inch). At 0.88 inches wide, the Tamron focusing ring was easier to find and grip. Focusing scales in meters are a nice bright white, but in feet, we found it very hard



SPECIFICATIONS

150–600MM (152.41–n.a. tested*), f/5–6.3 (f/4.52–n.a. tested*), 20 elements in 14 groups. Focus ring turns 130 degrees. Zoom ring turns 160 degrees. Focal length marked at 150, 180, 200, 250, 300, 400, 500, and 600mm.

DIAGONAL VIEW ANGLE: 16.4 degrees

WEIGHT: 4.37 lbs **FILTER SIZE:** 95mm

MOUNTS: Canon AF, Nikon AF, Sigma AF

INCLUDED: Lenshood, removable tripod

collar, case, protective cover

STREET PRICE: \$1,089

WEBSITE: sigmaphoto.com

TEST RESULTS

DISTORTION: At 150mm, 0.19% (Slight) pincushion; at 300mm, 0.20% (Slight) pincushion; at 600mm, 0.19% (Slight) pincushion

LIGHT FALLOFF: At 150mm, gone by f/5.6; at 300mm, gone by f/6.3; at 600mm, none

CLOSE-FOCUSING

DISTANCE: 105.41 inches

MAXIMUM MAGNIFICATION RATIO:

At 150mm, 1:16.12; at 300mm, 1:5.23

at 600mm, 1:4.35

IMAGE STABILIZATION: 2.50 stops

AMATEUR PRO

4.14 in.

10.29 in.

13.47 in.

1.97 in.

0.17 in.



to read the gray markings.

Sigma's new in-the-box "protective cover" is a rubber ring that slides around the tripod collar channel when the collar is removed. This accessory improves your grip for a noticeably better

SIGMA 150-600MM F/5-6.3 DG OS HSM/C

WHAT'S HOT

Versatile, sharp, and multi-featured

WHAT'S NOT

On the heavy side

WHO IT'S FOR

Anyone needing a well-stabilized, long-tele zoom at a reasonable price

*TESTED MEASUREMENTS NOT AVAILABLE DUE TO INSTRUMENT LIMITATION.

handholding experience. It also gives the barrel a more finished look sans tripod collar.

Its performance in the Popular Photography Test Lab impressed us. In our SQF bench tests for sharpness and contrast, the Sigma hit Excellent numbers at both 150mm and 200mm. At 300mm (the longest focal length our bench allows for a lens this size), it dipped slightly to a Very Good rating, a decent showing considering that most other tele zooms (specifically 70–300mm lenses by Canon, Nikon, and Tamron) dropped down further into the Good range at 300mm.

In our distortion tests using DxO Analyzer 5.3, we found Slight-range pincushioning (0.16–0.20%) at all focal lengths—very similar to the Tamron 150–600mm, the older (but still in production) Sigma 150–500mm f/5–6.3, and

the Nikon 80–400mm f/4.5–5.6.

Any vignetting and magnification differences between these comparable zooms were minor. Sigma's onboard optical stabilization system (OS) produced on average about 2.5 extra stops of handheld sharpness for our three testers—very nice for a mega telephoto zoom; the Tamron afforded a close but less favorable average of 2.33 stops.

Years ago, good long telephoto lenses were too pricey for many, and the less-expensive options were really not very impressive. Now Sigma not only gives photographers a choice between amateur or pro glass, but has raised the optical performance, even at the longest focal length. This new lens is also compatible with Sigma's mount conversion service, which lets it travel with you if you defect to another

This lens is compatible with Sigma's innovative USB dock that lets users update and adjust firmware, autofocus speed, and other parameters.

camera system. Great optics along with specially added features makes this lens a worthy consideration for sports, wildlife, and other tele zoom photographers. —Julia Silber



SUBJECTIVE QUALITY FACTOR

Our standard lens test, SQF rates sharpness by print size

Size	5x7	8x10	11x14	16x20	20x24
5.0	86.1	84.8	92.0	86.7	80.4
5.6	86.2	85.0	92.2	87.1	81.1
8.0	86.2	85.0	92.2	87.1	81.0
11.0	85.9	84.7	91.8	86.3	79.7
16.0	85.6	84.2	91.0	84.9	77.5
22.0	85.3	83.4	89.8	82.4	73.4

Size	5x7	8x10	11x14	16x20	20x24
5.6	86.1	84.8	91.2	85.7	79.4
8.0	86.0	84.8	92.0	87.2	81.9
11.0	86.0	84.7	92.0	87.2	82.0
16.0	85.5	84.1	90.9	85.4	78.1
22.0	84.7	83.0	89.2	82.0	73.5
25.0	84.5	82.8	88.8	81.2	72.1

Size	5x7	8x10	11x14	16x20	20x24
5.6	84.3	91.7	84.5	73.4	84.9
8.0	85.4	93.4	88.1	79.8	72.9
11.0	86.1	94.5	90.6	84.4	79.0
16.0	86.0	94.4	90.4	83.9	77.8
22.0	85.1	93.1	87.5	78.3	69.6
25.0	84.3	91.8	84.8	73.1	62.5

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▲ Joan Collins, Ingénue

This month's issue was one of the most fact-filled surveys of 35mm in action ever published, virtually a one-volume text on the subject. In this case, the cover photo of actress Joan Collins (a young starlet at the time) taken by Hollywood photographer Bert Six was not related to the issue theme, as it was made with an 8x10 Ansco View camera fitted with a 14-inch Kodak Ektar

**60
YEARS
AGO**

Our Movie section showed readers how to shoot with natural light.



f/6.3 lens. Five Kodatron studio electronic flash lamps provided the light for an exposure of f/12.5 on Daylight Ektachrome film using a CC5Y filter.

▼ New Contender

For the first time, Leica faced a serious rival for the professional 35mm championship, the Nikon S2. This camera offered

truly impressive features at a competitive price, including life-size viewing, lever film advance, fixed-take-up spool and, definitely not least, a line of outstanding Nikkor lenses. Prices were competitive: \$345 list for an f/1.4 lens, about \$100 less than the Leica M3 with a Summicon f/2 lens.



▲ Impressive Failure

One of the interesting aspects of camera history are models that fell flat almost as soon as they hit the market. Notable in this class was the Exakta 66, a complicated, awkward medium-format SLR from East Germany. The suggested list price of \$319.50 with 80mm f/2.8 Zeiss Tessar lens, a pre-war four-element design, did not help.

▼ Eye for Detail

One of the rising 35mm photographers of the time was Louis Stettner, who made this photo of a leaning bus stop sign in New York. He used a Leica (probably IIIf or IIIfc) with a 50mm Summitar f/2 lens. His exposure on Kodak Plus-X film was 1/100 sec at f/5.6. —Harold Martin



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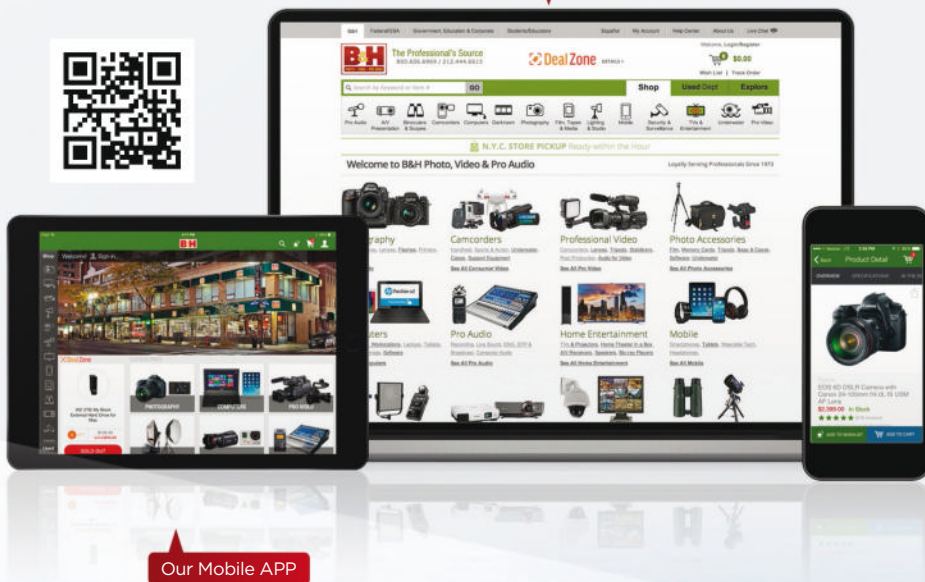
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0815



16
MP

FUJIFILM X-T1

Mirrorless Camera

- Weather-Resistant Body Construction
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- 3.0" LCD • 8 fps Shooting • Built-In Wi-Fi
- Full HD 1080p Video Recording at 60 fps

Body Only #FUXT1B
with 18-55mm Lens #FUXT1855B



16
MP

OLYMPUS OM-D E-M1

Mirrorless Camera

- Micro 4/3 System • Full HD 1080p Video
- 3.0" Tilting LCD Touchscreen
- SDHC/SDXC Card Slot • Built-In Wireless
- 10 fps and 1/8000 sec. Top Shutter Speed
- Dust/Splash/Freezeproof Magnesium Alloy

Body Only #OLEM1



16
MP

OLYMPUS OM-D E-M5 II

Mirrorless Camera

- Micro 4/3 System • Full HD 1080i Video
- 3.0" Tilting Monitor • 10 fps Shooting
- SDHC/SDXC Card Slot • Built-In Wi-Fi
- Dust and Splashproof Construction
- Available in Black or Silver

Body Only #OLODEM5*



16
MP

OLYMPUS OM-D E-M10

Mirrorless Camera

- Micro 4/3 System • 8 fps Shooting
- 3.0" Tilting Touchscreen LCD
- SDHC/SDXC Card Slot • Built-In Wi-Fi
- Full HD 1080p Video Recording at 30 fps
- Available in Black or Silver

with 14-42mm Lens #OLEM101442*



16
MP

FUJIFILM X-E2

Mirrorless Camera

- Uses Fujifilm X Mount Lenses • 3.0" LCD
- SDHC/SDXC Card Slot • 7 fps Shooting
- Full HD 1080p Video Recording at 60 fps
- Built-In Wi-Fi • Available in Black or Silver

Body Only #FUXE2*
with 18-55mm Lens #FUXE21855*



14
MP

Nikon 1 AW1

Mirrorless Camera

- SD, SDHC, SDXC Card Slot
- Uses Nikon 1 Lenses • 3.0" LCD
- Water, Shock, Dust & Freezeproof Design
- Full HD 1080i Video Recording at 60 fps
- Available in Black, Silver or White

with 11-27.5mm Lens #N1AW111275*



20
MP

Nikon 1 J5

Mirrorless Camera

- EXPEED 5A Image Processor • 3" Tilting Touchscreen LCD • Uses Nikon 1 Lenses
- microSDHC/XC Card Slot • Built-In Wi-Fi
- UHD 2160p/15 • Full HD 1080p/60 Video
- Available in Black, Silver or White

with 10-30mm Lens #N1J51030*



18
MP

Nikon 1 V3

Mirrorless Camera

- EXPEED 4A Image Processor
- Uses Nikon 1 Lenses • microSDHC/XC Card Slot • 3.0" Tilting Touchscreen LCD
- Movie e-VR Stabilization • Built-In Wi-Fi
- Full HD 1080p Video Recording at 60 fps

with 10-30mm Lens #N1V31030

FUJIFILM

Mirrorless System Lenses

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45/1.8.....	CALL	18-200/3.5-6.3 ED OIS.....	CALL
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85/1.4 ED SSA.....	CALL		

Panasonic

Lumix G Vario Mirrorless System Lenses

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20/1.7 II Aspherical.....	427.99
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45-175/4-5.6 X OIS.....	379.00
45-200/4-5.6 OIS.....	269.00
100-300/4.0-5.6 OIS.....	597.99

OLYMPUS

Flash System

FL-300R Flash.....	136.95	FL-600R Flash.....	299.95
FL-50R Flash.....	299.00		499.95
RF-11 Ring Flash.....	249.95	TF-22 Twin Flash.....	449.95
SRF-11 Ring Set.....	559.95	STF-22 Twin Flash Set.....	739.95

M.Zuiko Micro 4/3 Mirrorless Lenses

9mm f/8.0 Fisheye Body Cap Lens.....	99.00		
15mm f/8.0 Fisheye Body Cap Lens.....	49.00		
12/2.0 (46).....	799.00	9-18/4.0-5.6 (52).....	699.00
17/2.8 (37).....	299.00	12-40/2.8 Pro ED (62).....	999.00
17/1.8 (46).....	499.00	12-50/3.5-6.3 ED EZ (52).....	499.00
25/1.8 (46).....	399.00	14-42/3.5-5.6 EZ ED (37).....	349.00
45/1.8 (37).....	399.00	14-42/3.5-5.6 II R (37).....	299.00
60/2.8 Mac ED (46).....	499.00	14-150/4-5.6 (58).....	599.00
75/1.8 ED (58).....	899.00	40-150/4-5.6 ED R (58).....	199.00
75-300/4.8-6.7 II ED (58).....			549.00

PENTAX

AF Flash System

AF-360FGZ.....		AF-540FGZ II.....	
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DA Digital AF Lenses

15/4.0 ED AL HD Limited (49).....		70/2.4 HD Limited (49).....	
14/2.8 ED IF (77).....		200/2.8 ED IF SDM.....	
21/3.2 ED Limited (49).....		300/4.0 ED IF SDM (77).....	
35/2 AL (49).....		560/5.6 ED AW (112).....	
40/2.8 Limited (49).....		10-17/3.5-4.5 ED IF (77).....	
35/2.8 Macro HD Limited (49).....		12-24/4 ED AL IF (77).....	
40/2.8 HD Limited (49).....		16-50/2.8 ED AL SDM (77).....	
50/1.8 (52).....		17-70/4.0 AL IF SDM (67).....	
55/1.4 SDM (58).....		18-55/3.5-5.6 AL WR (52).....	
18-135/3.5-5.6 ED AL (IF) DC WR (62).....			
18-270/3.5-6.3 ED SDM (62).....			
20-40/2.8-4 HD Limited ED DC WR (55).....			
50-135/2.8 ED SDM (67).....		55-300/4-5.8 HD ED WR (58).....	
50-200/4-5.6 ED WR (52).....		60-250/4.0 ED IF SDM (67).....	

"FA" AF Lenses for 35mm & Digital SLRs

31/1.8 Limited.....		50/1.4 (49).....	
35/2.4 AL (49).....		50/2.8 Macro (52).....	
43/1.9 Limited (49).....		77/1.8 Limited (49).....	
100/2.8 FA WR Macro (49).....			

Nikon

Nikon 1 Mirrorless Lenses

10/2.8 AW.....	196.95	10-30/3.5-5.6 VR PD.....	296.95
10/2.8.....	246.95	10-100/4.0-5.6 VR.....	546.95
18.5/1.8.....	186.95	11-27.5/3.5-5.6 AW.....	146.95
32/1.2.....	896.95	11-27.5/3.5-5.6.....	186.95
6.7-13/3.5-5.6 VR.....	496.95	30-110/3.8-5.6 VR.....	246.95
10-30/3.5-5.6 VR.....	186.95	70-300/4.5-5.6 VR.....	996.95

SONY

Flash System

HVL-F20M.....	149.99	HVL-F43M.....	398.00
HVL-F20S.....	149.99	HVL-F60M.....	548.00

E-Mount Mirrorless Lenses

16/2.8 (49).....	248.00	10-18/4.0 OSS (62).....	848.00
20/2.8 (49).....	348.00	16-50/3.5-5.6 OSS (40.5).....	348.00
24/1.8 (49).....	1,098.00	16-70/4.0 ZA OSS (55).....	998.00
30/3.5 Mac (49).....	278.00	18-55/3.5-5.6 (49).....	298.00
35/1.8 OSS (49).....	448.00	18-105/3.5-6.3 OSS (72).....	598.00
35/2.8 ZA (49).....	798.00	18-200/3.5-6.3 (67).....	898.00
50/1.8 OSS (49).....	298.00	18-200/3.5-6.3 OSS (62).....	848.00
55/1.8 ZA FE (49).....	998.00	18-200/4.5-6.3 OSS (49).....	1,198.00
18-200/3.5-6.3 PZ OSS (67).....		55-210/4.5-6.3 OSS (49).....	348.00
24-70/4.0 ZA OSS (67).....	1,198.00	70-200/4.0 G OSS (72).....	1,498.00
28-70/3.5-5.6 OSS (55).....	498.00		

Digital Lenses

16/2.8 Fish-eye.....	998.00	11-18/4.5-5.6 DT (77).....	798.00
20/2.8 (72).....	748.00	16-35/2.8 ZA SSM (77).....	1,998.00
24/2 Carl Zeiss (72).....	1,398.00	16-50/2.8 DT (40.5).....	798.00
30/2.8 DT Macro (49).....	198.00	16-80/3.5-4.5 DT (62).....	998.00
35/1.4 G (55).....	1,498.00	16-105/3.5-5.6 DT (62).....	698.00
35/1.8 DT (55).....	218.00	18-55/3.5 DT SAM II (55).....	218.00
50/1.8 DT (49).....	168.00	18-135/3.5-5.6 (62).....	498.00
50/1.4 (55).....	448.00	18-250/3.5-6.3 DT (62).....	648.00
50/1.4 Carl Zeiss ZA (72).....	1,498.00	28-75/2.8 Carl Zeiss (77).....	1,998.00
50/2.8 Mac (55).....	598.00	28-75/2.8 (67).....	898.00
85/2.8 (55).....	298.00	55-200/4.0-5.6 DT (55).....	198.00
85/1.4 Carl Zeiss (72).....	1,698.00	55-300/4.5-5.6 DT (62).....	298.00
100/2.8 Macro (55).....	798.00	70-200/2.8 G SSM II (77).....	2,998.00
135/1.8 Carl Zeiss (77).....	1,798.00	70-300/4.5-5.6 G (62).....	998.00
135/2.8 STF (72).....	1,398.00	70-400/4.5-5.6 G2.....	2,198.00
300/2.8 G APO II (42).....	7,498.99	1.4x Teleconverter.....	548.00
500/4 G (42).....	12,998.00	2x Teleconverter.....	548.00

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16
MP

Panasonic Lumix DMC-GM5

Mirrorless Camera

- Highly Compact Magnesium Alloy Body
- Micro 4/3 System • Built-in Wi-Fi
- SDHC/SDXC Card Slot • 3.0" LCD
- Full HD 1080p Video at 60 fps
- MEGA O.I.S. • Available in Black or Red

with 12-32mm Lens #PADMCGM5K*



16
MP

Panasonic Lumix DMC-GX7

Mirrorless Camera

- Micro 4/3 System
- 3" Tilting Touchscreen LCD
- SDHC/XC Card Slot • 90° Tilting EVF
- Full HD 1080p AVCHD Video at 60 fps
- Available in Black or Silver

with 14-42mm II Lens #PADMCGX7K*



16
MP

Panasonic Lumix DMC-GH4

4K Mirrorless Camera

- DCI 4K 4096x2160 at 24p
- Full HD up to 60p • 3.0" LCD
- UHD 4K 3840x2160 at 30p/24p
- Support for 59.94p, 23.98p, 50p, & 24p
- Magnesium Alloy, Weather-Sealed Body

Body Only #PADMCGH4*



23
MP

PENTAX K-3

DSLR Camera

- 3.2" LCD • 8.3 fps Shooting
- Pentax K Lens Mount • Dual SD Card Slots
- In-Camera Shake Reduction Stabilization
- Full HD 1080i/p Video Recording
- Weather-Sealed Magnesium Alloy Body

Body Only #PEK3



24
MP

SONY Alpha A6000

Mirrorless Camera

- Uses Sony E-mount Lenses
- SD/XC, MS Pro Duo/HG Duo Card Slot
- Up to 11 fps Shooting • 3.0" Tilting LCD
- Full HD 1080i/p AVCHD Video at 24/60 fps
- Built-In Wi-Fi • Available in Black or Silver

Kit with 16-50mm OSS Lens #SOA6000*



24
MP

SONY Alpha A7 II

Mirrorless Camera

- Full Frame Exmor CMOS Sensor
- 3.0" Tiltable LCD • Full HD XAVC S Video
- SDHC/XC, MS Pro Duo/HG Duo Card Slot
- Uses Sony E-mount Lenses • Built-In Wi-Fi
- Weather-Resistant Magnesium Alloy Body

Body Only #SOA72

Kit with 28-70mm OSS Lens #SOA72K



20
MP

SONY Alpha SLT-A58

DSLR Camera

- Uses Sony E-mount Lenses
- SDHC/XC, MS Pro Duo/HG Duo Card Slot
- Full HD 1080i/p Video • 2.7" Tilting LCD
- SteadyShot INSIDE Image Stabilization
- ISO 100-16000 with Noise Reduction

DT 18-55mm SAM II Lens #SOSLTA58K



24
MP

SONY a77 II

DSLR Camera

- 3.0" 3-Way Tilting LCD • 12fps Shooting
- Uses Sony E-mount Lenses
- Full HD 1080p Video Recording at 60 fps
- SDHC/XC, MS Pro Duo, MS PRO HG Duo, XC-HG Duo Card Slot • Built-In Wi-Fi

Body Only #SOA772

ZEISS

These fully-compatible lenses with autofocus expand the capabilities of both the Sony NEX and Fujifilm X camera systems with outstanding optical quality.

Touit Mirrorless Lenses	Fujifilm X	Sony NEX	Price
12mm f/2.8 (67°)	#ZET2812X	#ZET2812E	999.00
32mm f/1.8 (52°)	#ZET1832X	#ZET1832E	720.00
50mm f/2.8M (52°)	#ZET5028MX	#ZET5028ME	999.00

Tokina

DX – for Digital SLRs Only

FX – Designed for full frame DSLRs

	Canon EOS	Nikon AF	Rebate	Price
FX 100mm f/2.8 Pro D Macro (52°)	#T010028PCAF	#T010028PNAF	—	379.00
DX 10-17mm f/3.5-4.5 ATX Fisheye	#T0101735CAF	#T0101735NAF	—	549.00
DX 11-16mm f/2.8 Pro II (77°)	#T0111628PCII	#T0111628PNII	\$30	449.00^
DX 11-24mm f/2.8 Pro (82°)	#T0112028PDXC	#T0112028PDN	—	599.00
DX 12-28mm f/4.0 Pro (77°)	#T012284DXC	#T012284DXN	—	449.00
FX 16-28mm f/2.8 Pro	#T01628FXC	#T01628FXN	\$40	589.00^
FX 17-35mm f/4 Pro (82°)	#T01735F4FXC	#T01735F4FXN	—	449.00

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C = Canon N = Nikon P = Pentax SA = Sony Alpha SE = Sony E Mount

	SKU #	Mounts	Rebate	Price
Di-II 60mm f/2.0 LD IF Macro (55°)	#TA602DI*	C, N, SA	—	524.00
Di 90mm f/2.8 Macro (55°)	#TA9028M*	C, N, P, SA	—	499.00
Di 90mm f/2.8 SP Macro VC USD (58°)	#TA9028VC*	C, N, S	—	749.00
Di 180mm f/3.5 LD IF Macro (72°)	#TA18035*	C, N, SA	—	739.00
Di-II 10-24/3.5-4.5 (77°)	#TA102435*	C, N, P, SA	—	499.00
Di-II 16-300/3.5-6.3 VC PZD (67°)	#TA1630035DI*	C, N, SA	\$50	579.00**
Di-II 17-50/2.8 XR LD IF Asph. (67°)	#TA175028*	C, N, P, SA	—	499.00
Di-II 17-50/2.8 XR VC LD IF Asph. (67°)	#TA175028*Q	C, N	—	649.00
Di-II 18-200/3.5-6.3 (62°)	#TA1820035*	C, N, P, SA	—	199.00
Di-III 18-200/3.5-6.3 VC (62°)	#TA1820035S*	SE Black or Silver	—	739.00
Di-II 18-270/3.5-6.3 VC PZD (62°)	#TA18270*	C, N, SA	\$100	349.00**
Di 24-70/2.8 VC USD (82°)	#TA247028*	C, N, SA	\$100	1,199.00**
Di 28-75/2.8 XR (67°)	#TA287528*	C, N, P, SA	—	499.00
Di 28-300/3.5-6.3 XR LD (62°)	#TA2830035XD*	C, P, SA	—	399.00
Di 28-300/3.5-6.3 VC PZD (67°)	#TA2830035DI*	C, N, SA	—	849.00
Di 70-200/2.8 LD IF Macro (77°)	#TA7020028M*	C, N, P, SA	—	769.00
Di 70-200/2.8 SP VC USD (77°)	#TA7020028*	C, N, SA	\$100	1,399.00**
Di 70-300/4.5-5.6 LD Macro (62°)	#TA70300M*	C, N, P, SA	—	199.00
Di 70-300/4.5-5.6 VC USD (62°)	#TA70300*	C, N, SA	\$100	349.00**
Di 150-600/5.6-3 VC USD (95°)	#TA150600S*	C, N, SA	—	1,069.00
1.4x SP AF Pro Teleconverter	#TA14XP*	C, N	—	224.00
2x SP AF Pro Teleconverter	#TA2XP*	C, N	—	254.00

SIGMA

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R Rear Slip-in Gelatin Filter Slot

DC for Digital SLRs Only	DG Optimized for Digital SLRs	1DN Designed for Mirrorless Cameras		
C = Canon MFT = Micro 4/3 N = Nikon O = Olympus P = Pentax SI = Sigma SA = Sony Alpha SE = Sony E				
** Price After Rebate Rebates Expire 6-30-15				
	Mount	SKU #	Rebate	Price
DC	4.5mm f/2.8 EX Circular Fisheye HSM ^R	C, N, P, SI, SA #S14528EX*	—	899.00
DG	8mm f/3.5 EX Circular Fisheye ^R	C, N, SI, SA #S1835*	\$50	849.00**
DC	10mm f/2.8 EX Fisheye HSM ^R	C, N, SA #S11028EXDC*	—	649.00
DG	15mm f/2.8 EX Diagonal Fisheye ^R	C, N, P, SA #S11528DG*	—	609.00
DN	19mm f/2.8 (46°) Black or Silver	MFT, SE #S1928DN*	—	199.00
DG	20mm f/1.8 EX DF RF Aspherical (82°)	N #S12018*	—	549.00
DG	24mm f/1.8 EX DF Asph. Macro (77°)	C #S12418MCAF	—	499.00
DG	28mm f/1.8 EX DF Asph. Macro (77°)	C #S12818MCAF	—	449.00
DN	30mm f/2.8 (46°) Black or Silver	MFT, SE #S13028DN*	—	199.00
DC	30mm f/1.4 HSM (62°)	C, N, P, SI, SA #S13014DCHSM*	—	499.00
DG	35mm f/1.4 HSM (67°)	C, N, P, SI, SA #S13514*	—	899.00
DG	50mm f/1.4 EX HSM (77°) ^H	C, N, SA #S15014*	\$100	399.00**
DG	50mm f/1.4 HSM (77°) ^H	C, N, SI, SA #S15014A*	—	949.00
DG	50mm f/2.8 EX Macro (55°)	C, N #S15028MDG*	—	349.00
DN	60mm f/2.8 (46°) Black or Silver	MFT, SE #S16028DN*	\$30	209.00**
DG	70mm f/2.8 EX Macro (62°)	N, P #S17028MDG*	—	449.00
DG	85mm f/1.4 EX HSM (77°)	C, N, P, SI, SA #S18514*	—	969.00
DG	105mm f/2.8 EX Macro OS HSM (62°)	C, N, SI, SA #S110528MDG*	\$300	669.00**
DG	150mm f/2.8 EX APO Macro OS HSM (72°)	C, N, SI, SA #S15028AMO*	—	1,099.00
DG	180mm f/2.8 EX APO Macro OS HSM (86°)	C, N, SI, SA #S18028AMEO*	—	1,699.00
DG	300mm f/2.8 APO EX HSM (46° Rear)	C, N, P, SI, SA #S130028DG*	—	3,399.00
DG	500mm f/4.5 APO EX HSM (46° Rear)	C, N, P, SI, SA #S150045DG*	—	4,999.00
DC	8-16mm f/4.5-5.6 HSM	C, N, S #S18164556*	—	699.00
DC	10-20mm f/4.5-6.3 EX HSM (77°)	C, P, SI, SA #S1102045D*	—	379.00
DC	10-20mm f/3.5 EX HSM (82°)	C, N, P, SI, SA #S1102035*	\$150	499.00**
DG	12-24mm f/4.5-5.6 EX Asph. HSM II	C, N, SI, SA #S122445*	—	949.00
DC	17-50mm f/2.8 EX OS HSM (77°)	C, N, P, SI #S175028*	\$150	519.00**
DC	17-70mm f/2.8-4.0 OS Mac. HSM TSC (72°)	C, N, P, SI, SA #S177028A*	—	499.00
DC	18-35mm f/1.8 HSM (72°)	C, N, P, SI, SA #S183518DC*	—	799.00
DC	18-200mm f/3.5-6.3 OS II HSM (72°)	SI, SA #S1820035*	—	299.00
DC	18-200mm f/3.5-6.3 OS Macro HSM (62°)	C, N, P, SI, SA #S1820035D*	—	399.00
DC	18-250mm f/3.5-6.3 OS Macro HSM (62°)	C, N, P, SI, SA #S1825035M*	\$200	349.00**
DC	18-300mm f/3.5-6.3 OS Macro HSM (72°)	C, N, P, SI, SA #S1830035*	—	579.00
DG	24-70mm f/2.8 EX IF HSM (82°)	C, N, SI, SA #S1247028*	\$100	799.00**
DG	24-105mm f/4.0 OS HSM (82°)	C, N, SI, SA #S124105*	—	899.00
DG	50-500mm f/4.5-6.3 APO OS HSM (95°)	C, N, P, SI, SA #S1505004563*	\$150	1,509.00**
DG	70-200mm f/2.8 EX APO OS HSM (77°)	C, N, P, SI, SA #S17020028*	\$200	1,199.00**
DG	70-300mm f/4-5.6 Macro (58°)	C, N, P, SI, SA #S1703004*	—	169.00
DG	70-300mm f/4-5.6 APO Macro (58°)	C, N, P, SI, SA #S1703004DG*	—	179.00
DG	120-300mm f/2.8 OS HSM (105°)	C, N, S #S120300*	—	3,599.00
DG	120-400mm f/4.5-5.6 APO OS HSM (77°R)	C, P, SI #S1212040*	—	899.00
DG	150-500mm f/5-6.3 APO OS HSM (86°)	C, N, P, SI, SA #S150500*	—	1,069.00
DG	1.4x EX APO Tele-Converter	C, N, S #S114XDG*	—	249.00
DG	2x EX APO Tele-Converter	C, N, S #S12XDG*	—	299.00
DG FLASH	EF-610 ST	C, N, P, SI, SA #S1EF610ST*	\$30	135.00**
DG FLASH	EF-610 Super	C, N, P, SI, SA #S1EF610*	\$30	225.00**
DG FLASH	EM-140 TTL Ringlight	C, N, P, SI, SA #S1EM140DG*	\$30	349.00**



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REBATE!**

Rebates Expire 7-4-15

Canon Digital Rebel T6i DSLR Camera

- 3.0" Vari-Angle Touchscreen • Built-In Wi-Fi
- Uses Canon EF Lenses (1.6x factor) • SDHC/XC Card Slot
- STM Lens Support for Quiet AF in Movies • Creative Filters
- Full HD 1080p Video Recording • 5 fps Shooting

T6i Kit	T6s Kit	T5i Kit	T5 Kit
with 18-55mm IS STM Lens	with 18-135mm IS STM Lens	with 18-55mm IS STM Lens	with 18-55mm IS II Lens
#CAEDRT6I1855	#CAEDRT6SK1	#CAEDRT5IK	#CAEDRT5K
\$899.99	\$1199.00	\$799.99	\$549.99
-\$50 Rebate	-\$50 Rebate	-\$150 Rebate	-\$100 Rebate
\$849.99	\$1,149.00	\$649.99	\$449.99



**\$200
REBATE!**

Rebates Expire 7-4-15

Canon EOS-70D DSLR Camera

- Dual Pixel CMOS AF with Live View
- SDHC/XC Card Slot • Uses Canon EF & EF-S Lenses
- 3.0" Vari-Angle Touchscreen • 7 fps Continuous Shooting
- Built-In Wireless • Full HD 1080p Video

EOS-70D	EOS-70D Kit	EOS-60D	EOS-60D Kit
Body Only	with 18-55mm STM Lens	Body Only	with 18-135mm IS Lens
#CAE70D	#CAE70D1855	#CAE60D	#CAE60D18135
\$1,199.00	\$1,349.00	—	—
-\$200 Rebate	-\$200 Rebate	—	—
\$999.00	\$1,149.00	—	—



**\$100
REBATE!**

Rebates Expire 7-4-15

Canon EOS-7D Mark II DSLR Camera

- 3" Clear View II LCD • Native ISO 16000 • 10 fps Shooting
- Dual Pixel CMOS AF with Live View • Dual CF & SDHC/XC Card Slots • Full HD 1080p/60 Video & Movie Servo AF
- Built-In GPS Receiver & Digital Compass

EOS-7D mII	EOS-7D	EOS-7D Kit	EOS-7D Kit
Body Only	Body Only	with 18-135mm IS Lens	with 28-135mm IS Lens
#CAE7D2	#CAE7D	#CAE7D18135	#CAE7D28135
\$1,799.00	—	—	—
-\$100 Rebate	—	—	—
\$1,699.00	—	—	—



**\$300
REBATE!**

Rebates Expire 7-4-15

Canon EOS-6D DSLR Camera

- Full-Frame CMOS Sensor • 3.0" LCD
- Uses Canon EF Lenses • SDHC/XC Card Slot
- Full HD 1080p with Manual Controls • Built-In Wi-Fi
- ISO 50-102400 • Built-In HDR & Multiple Exposure Modes

EOS-6D	EOS-6D Kit
Body Only	with 24-105mm f/4 L IS Lens
#CAE6D	#CAE6D24105
\$1,699.00	\$2,299.00
-\$300 Rebate	-\$300 Rebate
\$1,399.00	\$1,999.00



**\$300
REBATE!**

Rebates Expire 7-4-15

Canon EOS-5D Mark III DSLR Camera

- 3.2" LCD • DIGIC 5+ Image Processor
- Uses Canon EF Lenses • Dual CF, SD Card Slots
- Full HD 1080/30p & 720/60p Formats
- Built-In HDR & Multiple Exposure Modes • ISO 50-102400

EOS-5D Mark III	EOS-5D Mark III Kit
Body Only	with 24-105mm f/4 L IS Lens
#CAE5D3	#CAE5D324105
\$2,799.00	\$3,399.00
-\$300 Rebate	-\$300 Rebate
\$2,499.00	\$3,099.00



**\$700
REBATE!**

Rebates Expire 7-4-15

Canon EOS-1Dx DSLR Camera

- Dual DIGIC 5+ Image Processors • 3.2" LCD
- Magnesium Alloy Body • 1920 x 1080 HD Video Capture
- Uses Canon EF Lenses • Dual CF card slots
- Eye-Level Pentaprism Viewfinder
- Live View Still & Video Recording
- 61-Point High Density Auto Focus

EOS-1Dx			
Body Only	#CAE1DX	.....	\$5,999.00
	Less \$700 Rebate	.....	Final \$5,299.00

Canon SLR Lenses & Flashes

Call for Current Rebates & Promotions

Rebates Expire 5-30-15

EOS Flash System	MAP	Instant Rebate	Final
270EX II	169.99	\$30	139.99
320EX	.....	.....	.....
430EX II	299.99	\$40	259.99
600EX-RT	549.99	\$50	499.95
MR-14EX II Ringlight	549.99	\$50	499.99
MT-24EX Twin Flash	829.99	\$60	769.99

EF-S Digital Lenses	MAP	Instant Rebate	Final
(Not compatible with full frame cameras)			
24/2.8 STM (52ø)	149.99	.....	.....
60/2.8 USM Macro (52ø)	469.99	\$50	419.99
10-18/4.5-5.6 IS STM (67ø)	299.00	\$50	249.00
10-22/3.5-4.5 USM (77ø)	649.99	\$50	599.99
15-85/3.5-5.6 IS USM (72ø)	799.99	.....	.....
17-55/2.8 IS USM (67ø)	879.99	\$50	829.99
17-85/4-5.6 IS USM (67ø)	.....	CALL	.....
18-55/3.5-5.6 IS (58ø) II	199.99	.....	.....
18-135/3.5-5.6 IS (67ø)	499.99	.....	.....
18-200/3.5-5.6 IS (72ø)	699.99	.....	.....
55-250/4-5.6 IS USM II (58ø)	249.99	.....	.....
55-250/4-5.6 IS STM II (58ø)	299.99	.....	.....

TSE MF Lenses	MAP	Instant Rebate	Final
17/4.0 L	2,149.00	.....	.....
24/3.5 L II	1,149.00	.....	.....
45/2.8	1,399.00	.....	.....
90/2.8	1,399.00	.....	.....

EF Lenses	MAP	Instant Rebate	Final
20/2.8 USM (72ø)	539.99	\$50	489.99
24/2.8 IS USM (58ø)	599.99	\$50	549.99
28/1.8 USM (58ø)	509.99	\$60	449.99
28/2.8 IS USM (58ø)	549.99	\$50	499.99
35/2 IS USM (67ø)	599.99	\$50	549.99
40/2.8 STM Pancake (52ø)	199.99	\$50	149.99
50/1.8 II (52ø)	125.99	.....	.....
50/2.5 Macro (52ø)	299.99	.....	.....
50/1.4 USM (58ø)	399.99	\$70	329.99
MP-E 65/2.8 1x-5x Macro (58ø)	1,049.00	.....	.....
85/1.8 USM (58ø)	419.99	\$70	349.99
100/2 USM (58ø)	499.99	\$50	449.99
100/2.8 USM Macro (58ø)	599.99	\$50	549.99
400/4.0 DO IS II USM (52ø)	6,899.00	.....	.....
24-105/3.5-5.6 IS STM (77ø)	599.00	.....	.....
28-135/3.5-5.6 IS USM (72ø)	.....	CALL	.....
70-300/4-5.6 IS USM (58ø)	649.99	.....	.....
70-300/4.5-5.6 DO IS USM (58ø)	1,399.00	.....	.....
75-300/4.0-5.6 III (58ø)	199.99	.....	.....
75-300/4.0-5.6 III USM (58ø)	234.99	.....	.....

EF "L" Lenses	MAP	Mail-In Rebate	Final
14/2.8 USM II	2,099.00	.....	.....
24/1.4 II (77ø)	1,549.00	.....	.....
35/1.4 USM (72ø)	1,479.00	\$150	1,329.00
50/1.2 USM (72ø)	1,449.00	\$50	1,399.00
85/1.2 USM II (72ø)	1,999.00	\$50	1,949.00
100/2.8 IS USM Macro (67ø)	899.99	\$50	849.00

EF "L" Lenses	MAP	Mail-In Rebate	Final
135/2.0 USM (72ø)	999.00	\$50	949.00
180/3.5 USM Macro (72ø)	1,399.00	.....	.....
200/2.8 USM II (72ø)	749.00	.....	.....
200/2.0 IS USM (52ø)	5,699.00	.....	.....
300/4.0 IS USM (77ø)	1,349.00	.....	.....
300/2.8 IS USM II (52ø rear)	6,099.00	.....	.....
400/5.6 USM (77ø)	1,249.00	.....	.....
400/2.8 IS II (52ø rear)	9,999.00	.....	.....
500/4 IS USM II (52ø rear)	8,999.00	.....	.....
600/4.0 IS II (52ø rear)	11,499.00	.....	.....
8-15/4.0 Fish-eye USM	1,249.00	.....	.....
11-24/4 USM	2,999.00	.....	.....
16-35/4 IS USM (77ø)	1,099.00	\$100	999.00
16-35/2.8 USM II (82ø)	1,599.00	\$100	1,499.00
17-40/4.0 USM (77ø)	799.99	\$100	699.00
24-70/4.0 IS USM (77ø)	999.99	\$200	799.00
24-70/2.8 IS USM (82ø)	1,899.00	\$100	1,799.00
24-105/4 IS USM (77ø)	999.99	.....	.....
28-300/3.5-5.6 IS USM (77ø)	2,449.00	.....	.....
70-200/4.0 USM (67ø)	649.99	.....	.....
70-200/4.0 IS USM (77ø)	1,199.00	\$100	1,099.00
70-200/2.8 USM (77ø)	1,349.00	.....	.....
70-200/2.8 IS II USM (77ø)	2,099.00	\$100	1,999.00
70-300/4.0-5.6 IS USM (67ø)	1,349.00	.....	.....
100-400/4.5-5.6 IS USM (77ø)	1,699.00		

EF Teleconverters	MAP	Mail-In Rebate	Final
1.4x III	429.99		
2x III	429.99		

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hand



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June 4-5
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24 MP

\$150
REBATE!

Rebates Expire 6-27-15

Nikon D3300 DSLR Camera

- EXPEED 4 Image Processor • Full HD 1080p Video
- 3.0" LCD • 5 fps Shooting • SD/SDHC/SDXC Card Slot
- Uses Nikon AF Lenses (1.5x factor) • Easy Panorama Mode and Guide Mode • Nikon Inc. limited warranty included

D3300 Kit	D3200 Kit
Black, Grey or Red with 18-55mm VR II Lens #NID33001855*	Black or Red with 18-55mm VR Lens #NID32001855*
\$646.95	\$529.95
-\$150 Rebate	-\$80 Rebate
\$496.95	\$449.95



24 MP

\$150
REBATE!

Rebates Expire 6-27-15

Nikon D5500 DSLR Camera

- EXPEED 4 Image Processor • Full HD 1080p Video at 60 fps
- Uses Nikon AF Lenses (1.5x factor) • SDHC/XC Card Slot
- 3.2" Vari-Angle Touchscreen • Built-In Wi-Fi
- ISO 100-25600 • Nikon Inc. limited warranty included

D5500 Kit	D5300 Kit	D5200 Kit
Black or Red with 18-55mm VR II #NID55001855*	Black or Grey with 18-55mm VR II #NID53001855*	Black only with 18-55mm VR #NID52001855*
\$999.95	\$896.95	\$599.95
-\$150 Rebate	-\$150 Rebate	-\$50 Rebate
\$849.95	\$746.95	\$549.95



24 MP

\$200
REBATE!

Rebates Expire 6-27-15

Nikon D7200 DSLR Camera

- No Optical Low-Pass Filter • Dual SDHC/XC Card Slots
- EXPEED 4 Image Processor • Full HD 1080p Video
- Accepts Nikon AF Lenses (1.5x factor) • 3.2" LCD
- Built-In Wi-Fi • Nikon Inc. limited warranty included

D7200	D7200 Kit	D7100	D7100 Kit
Body Only	with 18-140mm VR DX Lens	Body Only	with 18-140mm VR DX Lens
#NID7200	#NID720018140	#NID7100	#NID710018140
—	\$1,699.95	\$1,199.95	\$1,696.95
—	-\$200 Rebate	-\$300 Rebate	-\$500 Rebate
\$1,199.95	\$1,499.95	\$899.95	\$1,196.95



24 MP

up to
\$900
REBATE!

Rebates Expire 6-27-15

Nikon D750 DSLR Camera

- FX-Format (Full-Frame) CMOS Sensor • 3.2" Tilting LCD
- Uses Nikon AF Lenses • Full HD 1080p Video at 60 fps
- EXPEED 4 Image Processor • Built-In Wi-Fi Connectivity
- SDHC/XC Card Slot • Nikon Inc. limited warranty included

D750	D750 Kit	D610	D610 Kit
Body Only	with 24-120mm VR Lens	Body Only	with 24-85mm VR Lens
#NID750	#NID75024120	#NID610	#NID6102485
\$2,296.95	\$3,596.95	\$1,996.95	\$2,596.95
-\$300 Rebate	-\$900 Rebate	-\$500 Rebate	-\$600 Rebate
\$1,996.95	\$2,696.95	\$1,496.95	\$1,996.95



36 MP

up to
\$900
REBATE!

Rebates Expire 6-27-15

Nikon D810 DSLR Camera

- FX-Format CMOS Sensor • EXPEED 4 Image Processor
- Uses Nikon AF Lenses • 3.2" LCD • Optical Low-Pass Filter
- CF & SD Dual Card Slots • Full HD 1080p Video at 60/30/24 fps • Nikon Inc. limited warranty included

D810	D810 Kit
Body Only	with 24-120mm VR Lens
#NID810*	#NID81024120*
\$3,296.95	\$4,599.95
-\$300 Rebate	-\$900 Rebate
\$2,996.95	\$3,699.95



16 MP

\$500
REBATE!

Rebates Expire 6-27-15

Nikon D4s DSLR Camera

- FX-format (full-frame) CMOS Sensor
- CF Type 1 & XQD Compatible • 3.2" LCD
- Full HD 1080p Video at 60 fps
- EXPEED 4 Image Processor
- 14-Bit RAW Files & 12-Bit RAW S Format
- 11 fps Shooting for 200 Shots with AE/AF
- Nikon Inc. limited warranty included

D4s	
Body Only #NID4S	\$6,496.95
Less \$500 Rebate	Final \$5,996.95

Nikon SLR Lenses & Flashes

Call for Current Rebates & Promotions

Rebates Expire 5-30-15

AF Flashes	Price	Rebate	Final
SB-300	146.95		
SB-500	246.95	\$20	269.95
SB-700	326.95	\$30	296.95
SB-910	546.95	\$50	496.95
R1 Wireless Twin Flash			
R1C1 Wireless Twin Flash System			

DX ED-IF Lenses for Digital Only	Price	Rebate	Final
10.5/2.8 Fish-Eye	774.95		
35/1.8 G AF-S (520)	196.95		
40/2.8 G AF-S Micro (520)	276.95	\$30	246.95
85/3.5 G ED VR Micro	526.95	\$100	426.95
10-24/3.5-4.5 G AF-S (770)	899.95		
12-24/4 G AF-S (770)	1,224.95		
16-85/3.5-5.6 G AF-S VR (670)	699.95		
17-55/2.8 G AF-S (770)	1,539.95	\$140	1,399.95
18-55/3.5-5.6 G AF-S II (520)	119.95		
18-55/3.5-5.6 G AF-S VR (520)	196.95		
18-55/3.5-5.6 G AF-S VR II (520)	246.95		
18-105/3.5-5.6 G AF-S VR	396.95		
18-140/3.5-5.6 G AF-S VR **	496.95	\$200	296.95**
18-200/3.5-5.6 G AF-S VR II	596.95		
18-300/3.5-5.6 G AF-S ED VR (770)	996.95		
18-300/3.5-6.3 G AF-S ED VR (670)	896.95	\$100	796.95
55-200/4-5.6 G AF-S (520)			
55-200/4-5.6 G AF-S VR II	346.95	\$200	146.95
55-300/4.5-5.6 G AF-S VR	396.95	\$150	246.95

D-Type AF Lenses	Price	Rebate	Final
14/2.8 D ED	1,894.95		
16/2.8 D (390) with Hood	999.95		
20/2.8 D (620)	624.95		
20/1.8 G AF-S ED (770)	796.95		
24/2.8 D (520)	394.95	\$50	344.95
24/1.4 G AF-S ED (770)	2,199.95		
24/3.5 D ED PC-E (770)	2,199.95		
28/1.8 G AF-S (670)	696.95		
28/2.8 D (520)	289.95	\$40	249.95
35/2.0 D (520)	389.95		
35/1.4 G AF-S ED (670)	1,799.95	\$200	1,599.95
35/1.8 G AF-S ED (580)	596.95		
45/2.8 D ED PC-E Micro (770)	2,049.95		
50/1.8 D (520)	134.95		
50/1.8 G AF-S (580)	216.95		
50/1.4 D (520)			
50/1.4 G AF-S (580)	484.95	\$50	434.95
58/1.4 G AF-S (720)	1,696.95	\$200	1,496.95
60/2.8 D Micro (620) (1:1)	519.95		
60/2.8 G AF-S ED Micro (620)	599.95	\$100	499.95
85/1.8 G AF-S (670)	496.95		
85/1.4 G AF-S (770)	1,699.95		
85/2.8 PC-E Micro (770)	1,979.95		
105/2.8 G AF-S ED-IF VR Micro (620)	984.95	\$135	849.95
105/2.0 DC D with Hood (720)	1,199.95		
180/2.8 D ED-IF (720)	1,004.95		
200/4 D ED-IF Micro with Case (620)	1,794.95		
200/2 G AF-S ED-IF VR II (520)	5,999.95		
300/4.0 D AF-S ED-IF (770)			

D-Type AF Lenses	Price	Rebate	Final
300/2.8 G AF-S VR (520-R)	5,899.95		
500/4.0 G AF-S VR ED (520)			
600/4.0 G AF-S VR ED (520)			
14-24/2.8 G AF-S ED-IF	1,996.95		
16-35/4.0 G AF-S ED VR (770)	1,256.95		
17-35/2.8 D AF-S ED-IF (770)	1,954.95		
18-35/3.5-4.5 AF-S G ED (770)	746.95		
24-70/2.8 G AF-S ED-IF (770)	1,886.95	\$200	1,686.95*
24-85/2.8-4.0 D IF (720)	744.95		
24-85/3.5-4.5 G AF-S ED VR	596.95	\$100	496.95
24-120/4.0 G AF-S ED VR (770)	1,296.95		
28-300/3.5-5.6 G AF-S ED VR	1,046.95	\$250	796.95^
70-200/4.0 G AF-S ED VR (670)	1,396.95		
70-200/2.8 G AF-S ED-IF VR II (770)	2,396.95	\$300	2,096.95*
70-300/4.0-5.6 G (620)	172.95		
70-300/4.5-5.6 G-AFS VR	586.95	\$200	386.95
80-200/2.8 D with Collar (770)	1,224.95		
80-400/4.5-5.6 G AF-S ED VR (770)	2,696.95		
200-400/4 G AF-S ED VR II (520)	6,999.95		

Teleconverters	Price	Rebate	Final
TC-14E III (1.4x) Teleconverter	499.95		
TC-17E II (1.7x) Teleconverter	549.95	\$50	499.95
TC-20E III (2x) Teleconverter	499.95	\$50	449.95

* When purchased with a D810, D4s

** When purchased with a D3300, D5300, D5500, D7100, D7200

^ When Purchased with D7100, D7200, D610, D750, DF, D810, D4s



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Canon Powershot G16

- 3.0" LCD • Full HD 1080/60p Video
- 5x Optical Zoom • 4x Digital Zoom
- 6.1-30.5mm f/1.8-2.8 (35mm equiv: 28-140mm) • SD/SDHC/SDXC Card Slot
- Enhanced Wi-Fi Capabilities

#CAPSG16.....\$499.99
Less \$100 Rebate.....Final **\$399.99**



Canon Powershot SX60 HS

- 65x Optical Zoom • RAW Image Capture
- 3.8-247mm f/3.4-6.5 (35mm equiv: 21-1365mm) • 3.0" Vari-Angle LCD
- SDHC/SDXC Card Slot • Built-In Wi-Fi
- Full HD 60p Video & External Mic Input

#CAPSSX60HSB.....\$549.99
Less \$70 Rebate.....Final **\$479.99**



FUJIFILM X30

- 3.0" Tilting LCD • Die-Cast Magnesium Body
- Full HD 1080 Video @60fps • EXR Processor II
- 4x Optical Zoom • Dual Manual Control Rings
- 7.1-28.4mm f/2-2.8 (35mm equiv: 28-112mm)
- SDHC/XC Card Slot • ISO 100-12800
- Classic Chrome Film Simulation Mode

Black or Silver #FUX30*



Nikon Coolpix L840

- 3.0" Tilting LCD • Built-In Wi-Fi
- 38x Optical Zoom • 76x Digital Zoom
- 4-152mm f/3-6.5 VR Lens (35mm equiv: 22.5-855mm) • SDHC/XC Card Slot
- Full HD 1080p Video at up to 30 fps

Black or Red #NICPL840*.....\$299.99
Less \$50 Rebate.....Final **\$249.99**

MEMORY CARDS

CF Compact Flash

	Delkin				Kingston		Lexar		Sandisk		
	500x	700x	1000x	1050x	Ultimate 266x	Ultimate 600x	800x	1066x	Ultra 50MBs	Extreme 120MBs	Extreme Pro 160MBs
16GB	29.95	34.95	39.95	—	18.95	—	38.80	39.95	20.95	37.95	49.95
32GB	34.95	39.95	59.95	79.95	28.95	44.95	51.97	68.95	32.99	49.95	65.95
64GB	68.50	72.50	86.99	149.95	49.95	79.95	78.80	118.69	—	69.89	129.95
128GB	—	159.99	209.95	238.99	—	—	177.95	178.99	—	164.99	236.00
256GB	—	—	—	—	—	—	359.90	469.95	—	—	529.99
512GB	—	—	—	—	—	—	749.95	—	—	—	—

SDHC-UHS1 Ultra High Speed

	Lexar	Sandisk	Sony
	Platinum 300x	Micro 80MBs	Class 10 94MBs
8GB	5.99	19.89	11.66
16GB	9.99	15.95	22.49
32GB	14.99	28.95	37.95

SDHC-UHS1 Speed Class 3 (U3)

	Delkin	Kingston	Lexar	Sandisk	Sony
	633x	90MBs	633x 95MBs	Extreme 60MBs	Extm Pro 95MBs
8GB	17.95	—	—	—	—
16GB	26.95	19.95	—	13.45	—
32GB	36.95	28.95	19.95	21.88	35.95

SDHC-UHS2

	Delkin	Lexar	Sandisk
	U3 280MBs	1000x 1000x 2000x 150MBs	Extm Pro 300MBs
8GB	64.95	14.95	—
16GB	114.95	28.95	39.95
32GB	—	58.99*	74.95

SDXC-UHS1 Ultra High Speed

	Lexar	Sandisk	Sony
	Platinum 300x	Micro 80MBs	Class 10 94MBs
64GB	29.54	49.91	64.95
128GB	56.95	99.95	76.00
256GB	—	—	—
512GB	—	—	—

SDXC-UHS1 Speed Class 3 (U3)

	Delkin	Kingston	Lexar	Sandisk	Sony
	633x	90MBs	633x 95MBs	Extreme 60MBs	Extm Pro 95MBs
64GB	69.95	49.95	36.95	44.95	59.95
128GB	93.50	—	68.95	—	109.95
256GB	175.95	—	127.95	—	227.95
512GB	—	—	—	499.95	—

SDXC-UHS2

	Delkin	Lexar	Sandisk
	U3 280MBs	1000x 1000x 2000x 150MBs	Extm Pro 300MBs
64GB	—	44.34	68.95*
128GB	—	78.69	—
256GB	—	147.59	—
512GB	—	—	—

CFast 2.0 High Speed

High-speed file transfer to meet the demands of broadcast, cinema, and photography.



	Sandisk	Lexar
	Extreme Pro 515 Mbs	510 Mbs
32GB	117.99	128GB.....\$363.99
128GB	499.95	64GB.....196.69
256GB	678.99	—

XQD High-Speed for Nikon D4

	Lexar	Sony
	Professional 1333x	N Series 125MBs
32GB	95.95	84.95
64GB	139.95	169.95

SDHC Secure Digital High Capacity

	Delkin	Kingston	Sandisk
	Pro Class 10	Micro Class 10 Mobility	Standard Class 4
4GB	7.95	—	4.95
8GB	8.95	6.95	5.95
16GB	10.95	9.95	8.95
32GB	15.95	16.95	16.95

FILTERS

TIFFEN 10-Year Warranty Made in USA		Multicoated Filter Technology				
		52mm	58mm	62mm	72mm	77mm
812 Warming		65.32	75.37	49.44	54.31	129.95
Grad ND 0.6		75.37	84.90	110.54	99.99	140.68
Circular Polarizer		110.54	81.90	105.05	137.23	193.99
Ultra Clear		43.54	39.90	58.62	44.90	48.90
Haze 86		28.60	30.38	75.37	44.10	60.00
ND 1.2		65.32	75.37	99.95	109.95	130.63
ND 0.6		59.95	35.89	63.15	99.95	80.34
Soft FX3		75.37	85.41	110.54	120.59	140.68
Star 4 pt 2		65.32	75.37	100.49	110.54	130.63

Filter Stack Caps 49mm.....	10.95	52mm.....	12.95	55mm.....	10.95	58mm.....	14.95
Filter Stack Caps 62mm.....	13.95	67mm.....	14.95	72mm.....	15.95	77mm.....	16.95

HOYA		Buy 3 or more Hoya Filters & Get 10% Off				
		52mm	58mm	67mm	72mm	77mm
Skylight (1B) HMC		15.50	20.90	19.95	24.95	52.35
UV Haze NXT HMC		23.90	26.85	37.90	44.90	53.90
Linear Polarizer		15.20	18.26	26.77	32.50	44.90
Circular Polarizer		29.90	31.90	44.90	50.90	60.90
Circular Polarizer HMC		49.95	—	49.95	76.95	93.95
"Moose" Warm Circular Polarizer		33.96	37.15	53.90	56.87	68.45
K2 Yel, X0 Yel/Gm, Gm X1, Or G, Red 25A HMC		20.78	23.99	34.90	31.54	45.66
Close Up Set (+1, +2, +4)		34.50	49.89	47.62	52.42	50.28
Close-up Multicoated		34.95	39.90	46.90	64.99	47.95
Enhancing (Intensifier)		21.99	29.99	44.50	58.21	63.49
Neutral Density 2x, 4x, 8x HMC		17.85	21.90	30.86	37.09	41.56
Star 6, Star 8		16.50	19.95	31.42	33.94	37.45

B+W		Buy 3 or more B+W Filters & Get 5% Off					
		52mm	58mm	62mm	67mm	72mm	77mm
UV Haze SC		16.95	19.40	21.50	23.00	33.90	34.95
UV Haze MRC 010M		29.89	32.50	33.63	36.90	49.36	59.75
Circular Polarizer SC		69.70	62.50	64.50	78.00	63.88	99.95
Circular Polarizer MRC		64.99	74.89	70.00	89.95	89.95	127.20
Circular Polarizer Kaesemann MRC		99.90	79.99	99.95	94.95	—	128.99
Skylight KR1.5 (1A)		24.50	24.50	—	—	42.00	—
Soft Pro		75.50	94.50	95.00	111.50	135.50	156.50
Graduated (N.D. & Colors)		109.95	116.50	126.50	119.95	136.95	144.95
Neutral Density 106		60.00	56.00	82.93	73.98	74.88	99.00
Close-Up Lenses 1, 2, 3, 4, 5		24.50	24.50	31.95	36.00	42.00	49.00

Filter Wrenches Set of 2 for 48-58mm Filters #GBFW4858.....	4.95
Filter Wrenches Set of 2 for 62-77mm Filters #GBFW6277.....	5.95

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027 Warm 81B		16.99	—	44.99	
056 Star 8		25.71	32.14	—	
083/830 Diffuser 1		30.70	—	—	
120 Grad G1 Grey		24.99	35.00	—	
121 Grad G2 Grey		32.53	33.44	—	
122 Grad B1 Blue		32.53	32.00	72.68	
125 T2 Tobacco		32.53	33.44	72.68	
153 Grey ND4x		22.07	32.56	53.85	
164 Circular Polarizer		48.79	110.65	649.90	
173 VC Blue/Yellow		38.15	78.00	—	
197 Sunset 1		30.91	19.99	69.05	

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SONY CyberShot DSC-RX100 III

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Model	Included Ball Head	Load Capacity	Max. Height	Folded	Weight	SKU #	Price
Anodized Aluminum Tripods							
AT-3421	BA-106T	6.6 lb	59"	16.8"	2.7 lb	#OBAT3421106T	\$159.95
AT-3431	BA-108T	9.8 lb	61.3"	17.3"	2.8 lb	#OBAT3431108T	\$199.95
AT-3441	BA-111T	11 lb	63.4"	17.5"	3.5 lb	#OBAT3441111T	\$249.95
AT-3451	BA-113T	13.2 lb	65.5"	18.1"	3.6 lb	#OBAT3451113T	\$289.95
AT-3461	BA-117T	17.6 lb	67.1"	18.9"	4.5 lb	#OBAT3461117T	\$299.95
6x Carbon Fiber Tripods							
CT-3431	BE-108T	8.8 lb	59.5"	17"	2.5 lb	#OBCT3431108T	\$399.95
CT-3451	BE-113T	13.2 lb	61.3"	17.1"	2.5 lb	#OBCT3451113T	\$479.95
CT-3461	BE-117T	17.6 lb	64.5"	17.4"	3.1 lb	#OBCT3461117T	\$479.95
CT-3481	BE-126T	26.4 lb	68"	18.9"	3.8 lb	#OBCT3481126T	\$499.95
CT-3521	BE-106T	6.6 lb	56.4"	14.8"	2.4 lb	#OBCT3521106T	\$379.95
CT-3531	BE-108T	8.8 lb	60.8"	15.5"	2.5 lb	#OBCT3531108T	\$399.95
CT-3551	BE-113T	13.2 lb	62.4"	16"	2.6 lb	#OBCT3551113T	\$469.95
CT-3561	BE-117T	17.6 lb	64.3"	16.8"	3.1 lb	#OBCT3561117T	\$349.95
CT-3581	BE-126T	26.4 lb	67.9"	16.9"	3.9 lb	#OBCT3581126T	\$369.95

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for Canon T5, T3	BG-C7	#VEBGC7.....	\$59.95
for Canon 6D	BG-C8	#VEBGC8.....	\$74.95
for Canon 5D Mark III	BG-C9	#VEBGC9.....	\$99.95
for Canon 70D	BG-C10	#VEBGC10.....	\$84.95
for Nikon D5200, D5100	BG-N6	#VEBGN6.....	\$59.95
for Nikon D800, D800E	BG-N7	#VEBGN7.....	\$89.95
for Nikon D3100, D3200	BG-N9	#VEBGN9.....	\$64.95
for Nikon D600, D610	BG-N10	#VEBGN10.....	\$79.95
for Nikon D7100, D7200	BG-N11	#VEBGN11.....	\$89.95
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ALISSA EVERETT

Alissa Everett sheds light on education

I TRAVELED through Darfur, the Western region of Sudan, with the World Food Program and my foundation Exposing Hope. I

wanted to document the Program's work with food distribution and feeding programs that help families send their young girls to school for an education.

The girls in this image go to a school where they are given food

for themselves and their families in order to encourage learning even in the face of poverty.

When I photograph I want to tell a story, connect with my subjects, and make the viewer look closely. —As told to Sara Cravatts



Focal length: 600mm Exposure: F/7.1 1/640 sec ISO800 © Hiroto Fukuda



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